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THE PSYCHOLOGY OF RELAXATION

BY

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E.V.

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*"I ain't gwine a work till my dyin' day;
'F I ever lays up enough
I's gwine a go off a while en stay,
I'll be takin' a few days off.
Case de jimson weeds don't bloom but once
En when dey's shed dey's shed.
En when you's dead, tain't jis a few mont's
But you's gwine be a long time dead."*

* * *

"An American was once getting some money on a letter of credit in a banking office in Damascus and fell into conversation with the grave Oriental who was serving him, and who asked what struck him as the most obvious difference between Damascus and New York. The American, after a moment's hesitation, replied that he thought life moved with more rapidity in New York. 'Yes,' said the Oriental, 'you call that *hustle*. We tried that in Damascus a thousand years ago and found there was nothing in it and gave it up.'"

The Outlook, Sept. 29, 1915.

“An old negro woman had worked for years in a southern family, and during that time she had been uniformly patient and kind and always cheerful. One day her mistress asked her, ‘Aunt Mandy, what makes you so cheerful all the time?’ She threw back her head and laughed, saying, ‘Lawd, chile, I jes weahs de wurl lak a loose gyarment.’”

* * *

“The racially old is seized by the individual with ease and joy.”

LUTHER H. GULICK.

* * *

Ἔστιν οὖν τραγωδία μίμησις πράξεως σπουδαίας καὶ τελείας μέγεθος ἐχούσης, ἡδυσμένης λόγῳ χωρὶς ἐκάστῳ τῶν εἰδῶν ἐν τοῖς μορίοις, δρώντων καὶ οὐ δι’ ἀπαγγελίας, δι’ ἐλέου καὶ φόβου περαίνουσα τὴν τῶν τοιούτων παθημάτων κάθαρσιν.

ARISTOTLE, *Poetics*, 5. 1449. 24.

PREFACE

TO select for psychological treatment, and to bring together in one book such subjects as play, sport, laughter, profanity, alcohol, and war, may seem to some capricious — to others, possibly, even sensational. Let me assure the reader that nothing could be farther from my purpose than to make any such appeal to popular favor. I have attempted a prosaic, and, so far as lay in my power, a strictly scientific treatment of these subjects from the psychological and psychogenetic standpoint.

These subjects have been chosen, as I have explained in the introductory chapter, because they all illustrate one fundamental law, that of relief from the stress and tension which characterize our modern life. The connecting idea which links together these several themes is the *catharsis* idea, but the *catharsis* idea itself, as it appears in Aristotle and modern writers, I have found it necessary to subject to a new interpretation.

Of the seven chapters in this book, four have

appeared in somewhat different form in various periodicals. The chapter on Play is an enlargement and revision of two articles, one on the "Psychology of Relaxation," which appeared in the *Popular Science Monthly* in June, 1914, and one on the "Psychology of Play," from the *Pedagogical Seminary* of October, 1914. The chapters on Profanity, Alcohol, and War are revisions of three articles, one on the "Psychology of Profanity," published in the *Psychological Review* of March, 1901; one entitled "In Quest of the Alcohol Motive," in the *Popular Science Monthly* of September, 1913; and one on the "Psychology of War," in the *Popular Science Monthly* of August, 1915. My thanks are due to the editors of these periodicals for permission to use the articles here.

I wish especially to acknowledge my indebtedness to President G. Stanley Hall, as all writers must do who love to dwell upon the significance of racial history in the interpretation of the mental life of the child and the man.

G. T. W. PATRICK.

IOWA CITY,
January 1, 1916.

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THE PSYCHOLOGY OF RELAXATION
CHAPTER I
INTRODUCTION

THE PSYCHOLOGY OF RELAXATION

CHAPTER I

INTRODUCTION

THE Gospel of Relaxation was the subject of a speech made by Mr. Herbert Spencer at a dinner given in his honor in New York City in 1882. Mr. Spencer called attention to the extreme form of "persistent activity" which characterizes the American people. The energy of the savage, he said, was spasmodic. He could not apply himself persistently to work. He lived in the present and did not worry about the future. Civilized man more and more pursues a future goal and applies himself to work until it becomes a passion.

In America, said Mr. Spencer, this strenuous and high-pressure life has become extreme, and a counterchange — a reaction — must be imminent. We take our multitudinous responsibilities too seriously. There are too many lines in our faces, our

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gray hairs appear too early, our nervous breakdowns are too frequent. Damaged constitutions and a damaged posterity are among the results. Emerson, with his saying that the first requisite of a gentleman is to be a perfect animal, is a safer guide for us than Carlyle with his gospel of work.

More recently, Professor James, Annie Payson Call, and other writers¹ have eloquently preached this same gospel of relaxation. We are told that we are too breathless; that we live under too much stress and tension; that we are too intense and carry too much expression in our faces; that we must relax, let go, breathe deeply, and unburden ourselves of many useless contractions.

There seems to be a good deal of truth in this. Some of us manage to escape neurasthenia, but few of us are free from fatigue, chronic or acute. We hear with amazement now and again some one say, "I was never tired in my life." Surely under normal conditions we ought not to be so tired as we are, nor tired so often.

¹ For references, see bibliography of "Play" at the end of chapter II.

Impressed with the strenuous character of American life and the need of more rest and recreation, practical common sense, not waiting upon theory, has turned to discover means for relieving the excessive tension incident to our present habits of living. Some, as we have said, preach the gospel of relaxation, content to tell us that we are too intense. Others have established schools with practical and helpful rules and methods for relaxation and have brought comfort and relief to many. Again, a new and unique interest has suddenly arisen in *play*. Men and animals have always played; but now we have first become conscious of play and curious about it. We insist on play. If children do not play, we teach them to play. And we are anxious to know about the theory of play.

Finally, a score of movements, perhaps many score, have sprung into notice, whose purpose is to encourage or provide some form of relaxation. We recall the recreation movement; the physical-culture movement; the playground movement; the Boy Scouts; the Camp-Fire girls; the ever-increasing interest in athletics, not only in our colleges,

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but also in our high schools and grammar schools; the radical change in Young Men's Christian Associations from devotional to hygienic and athletic religion; the renaissance of the gymnasium and the Olympic games; the increased interest in outdoor life of all kinds; the renewed devotion to outdoor sports, like tennis, golf, baseball, and football; the rapid extension of the play motive into almost every branch of education; the new vacation schools and school excursions; finally the supervised playgrounds, supervised folk-dancing, supervised swimming, wading, tramping, gardening, singing, and story-telling. Even with very young children the Montessori system seeks to relieve the tension of the old task methods by making the child's activities natural and interesting as well as useful.

More than twenty-five hundred regularly supervised playgrounds and recreation centers are now maintained in about six hundred and fifty cities in this country. A brand new profession has appeared, that of play leader, employing nearly seven thousand professional workers.

The legislatures of some States have passed laws requiring every city of a certain size to

vote on the proposition of maintaining playgrounds. New York City expended more than \$15,000,000 on playgrounds previous to 1908. The city paid \$1,811,000 for one playground having about three acres. Chicago spent \$11,000,000 on playgrounds and field houses in two years. Formerly the boy could play on the street, in the back alley, in the back yard. Now, the alley and back yard have disappeared, the street is crowded with automobiles, and the few remaining open spaces are given over to the lawn-mower and keep-off-the-grass signs, while more and more the school has encroached on the boy's precious period of growth, filling at least nine of the twelve months of the year and adding the evils of evening study and the dread of examinations.

For reasons which will be shown presently, boys *must* play. Take away the opportunity for legitimate play, and the play instinct, the instinct of rivalry, of adventure, of initiation, will manifest itself in anti-social ways. Hence the juvenile court and the reform school. "Better, playgrounds without schools," says one writer, "than schools without playgrounds."

Up to the present time this is about as

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far as we have gone into the subject of relaxation. Its psychology has not really been studied at all. We have simply been impressed by the tense and strenuous character of our manner of life and have connected this with the increase of nervous disorders and nervous breakdowns and perhaps with the increase of insanity, and have felt the need, accordingly, of more recreation and play, and more harmony and poise in our way of living, and have taken, therefore, a few practical steps in this direction.

But suddenly within the most recent days things have happened which have caused some of us to begin to think more deeply on the whole subject of work and play, and have suggested that it is not a local American problem at all, but a world problem of the present age, and that perhaps great social questions may be involved. The outbreak of recreation crazes in America was the first of these events, but it was the calamity of the European war which most distinctly called our attention to the need of a more careful study of the psychological conditions of our modern life.

Just as we thought the world to be get-

ting very serious, and settling down to work and to problems of social and individual welfare and to political and moral reform, it has suddenly gone amusement-mad in America and reverted with unparalleled ferocity to primeval bloodshed in Europe. These amusement crazes have taken many forms, but the most virulent form was seen in the dancing mania, which has passed through various stages in North and South America and has been so widespread and so compelling that it has reminded us of the epidemics of the Middle Ages. At its height, according to the newspaper reports, a tribe of Indians in Nevada built a great dance-hall in the midst of their village, and imported a teacher of the tango.

Then came the moving-picture craze, which has seized the world like an obsession. No one can suppose that this colossal social phenomenon is to be explained by the mere fact of the discovery of the cinematograph, and that the people were merely waiting upon the invention in order to flock to the spectacles. The invention was an incident. The real significant fact was the psychological situation.

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Consider the following editorial from a recent number of the "Nation": —

The historian will come to grief if he attempts to describe the cause of frivolity in the New York of 1915 A.D. as historians have depicted the frivolity of Rome under the early emperors, and to compare bread and the circus with lobster *à la Newburgh* and the cabaret. Going back to Rome, and assuming the grand manner, he will speak of a city that drew to itself the booty of the civilized world, of a population enervated by the largess of politicians doling out the plunder of three continents, of a citizenship lulled into civic indifference by gifts and amusements — in other words, an imperial city gone rotten with prosperity. If the parallel holds for New York, the historian would have to describe a city that went mad over cabarets because it had more money than it could spend wisely, because it had no serious interest in the problems of the civic and social life, because its serenity was undisturbed by wars or the fear of wars, because there was no unemployment problem, no city-budget problem, no workmen's compensation problem, no widows' pension problem, no Mexican problem, no German problem. Else how account for a city gone mad over the fox trot and the white lights? Life was much simpler in imperial Rome than it is in New York to-day, though even under the early Cæsars the picture was not so uniform

as the average historian has painted it. At least we know to-day that the fact of 400,000 unemployed in New York City does not militate against the prosperity of the "movies," which are the *circenses* of the masses; and the fact of Wall Street's unemployed has not interfered with the prosperity of the cabarets. Quite the contrary. There is good reason for believing that not all the young men at the afternoon teas are professional idlers and parasites, but that a good many business men and brokers have taken to dancing in the afternoon because there was nothing to do downtown. Perhaps the grasshopper in La Fontaine's fable, who sang all summer, did so because business was rotten, and when the ant told him to go and dance in winter, he was only advising him to do the best possible thing under the circumstances.¹

To be sure it is no longer possible to dispose of such things as these by referring them to "frivolity" or to "luxury," but neither is it possible to say that they are due to idleness. For instance, a correspondent in a small mining-camp near the Mexican border writes that the Mexican laborers, who comprise six-sevenths of the population, are strictly amusement-mad, spending their last pennies at the

¹ *Nation*, June 3, 1915, p. 613.

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“movies” or the merry-go-round or for intoxicants. May it not be that these amusement crazes are a form of reaction against a manner of life that is too serious and tense. May they not be indications of a lack of physiological adjustment. We are making great efforts in these days to secure better *social adjustment* through the study of social and economic conditions; but is it not possible that the trouble is not in the lack of social adjustment, but in the lack of physiological adjustment in the individual, so that what we have to strive for is not so much improved social conditions, as improved health and improved physical constitutions, to be gained by a different manner of life, a different kind of education, and a different proportion of work and play.

Then there is another cloud which has recently appeared on the social horizon leading us to think that the problem of work and play needs further study. We refer to the remarkable increase in the number of deaths from diseases of degeneration. A few years ago, rejoicing over the discoveries of Pasteur and his followers, we had great hope of increasing the span of human life by the conquest of the

devastating parasitic diseases. These diseases have, indeed, to some extent been conquered. We have now less dread of typhoid, tuberculosis, pneumonia, and diseases of this class due to microscopic enemies, but the expected increase in racial stability has not come. Some, therefore, are beginning to ask whether the better way to lengthen human life is to remove the enemies which threaten it, or to increase our power of resistance to these enemies.

According to Mr. E. E. Rittenhouse, president of the Life Extension Institute, there is a marked decline in the power of American workers to withstand the strain of modern life. They wear out sooner than they did a few years ago. The chances of death after reaching the prime of life have increased because of the extraordinary increase in the death-rate from the breaking-down of the heart, arteries, kidneys, and of the nervous and digestive systems. Mr. Rittenhouse's conclusions as to the serious inroads of these diseases in modern life are based not on mortality records of the idle rich and such classes, but upon actual physical examination of a large number of male workers, including officials, clerks, and

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employees of banks and commercial houses, averaging about thirty years of age. The results show that these diseases of degeneration, so-called diseases of old age, are "reaching down into middle life and below, and increasing there, and apparently at all ages." These diseases, not being so quickly fatal as the parasitic diseases, produce decreased efficiency and increased misery, oftentimes through many working years.¹

The lesson which investigations such as this teach is that the problem of public health and longevity is not altogether a problem of hygiene in the narrower sense in which this word is commonly used. It is rather the deeper question of vitality, of biological adjustment, of racial stability; and it involves questions of heredity, of mental and physical balance, of manner of life, of physical education, of work and play.

Sociologists are becoming acutely conscious of the fact that our cultured classes are not self-perpetuating. The increasing number of childless marriages and small families in these classes indicates that a

¹ E. E. Rittenhouse, *Protecting the Human Machine*. Life Extension Institute, New York.

process of displacement is taking place in favor of peoples of hardier stock and simpler habits, depriving us at once of the advantages of physical heredity and making progress depend very largely upon social heredity alone. A given stock of people may cultivate its brains to the highest point of intellectual and moral efficiency, but, if it neglect the corresponding development of somatic vitality, if it neglect strength and vigor of muscles, heart, lungs, stomach, and reproductive system, it is doomed to extinction and cannot pass on to posterity the intellectual and moral power which it has itself inherited.

Finally, the increased desire for narcotics in the form of drugs, tobacco, and alcohol, prevalent in all civilized countries, is a further indication of some serious lack of balance between body and brain.

There is a lack of adjustment somewhere, and the problem of the day is to find out where it is and how it may be remedied. It is not our purpose in this book to study this great problem, but rather a single phase of it, namely, the relation of work and play and the results both to the individual and

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to society of excessive work and insufficient relaxation.

It is very probable that our modern strenuous life is bringing too heavy a strain upon the brain, particularly those parts of the brain immediately connected with the mental powers which condition that peculiar kind of progress which the world is now making. The tendency of the times is toward a very swift industrial, commercial, professional, and intellectual activity. It is an age of great effort and endeavor, of stress and tension, of labor and strain, of scientific and inventive ability; an age of great efficiency and striving for efficiency; an age of variegation; a centrifugal age. It is not an age of peace, of calm, of poise, of relaxation, of repose, of measure, of harmony, of conservation. It is not a centripetal age. The spirit of the age is that of Francis Bacon. It is not the spirit of such greater minds as Buddha and Jesus and Sophocles and Plato and St. Francis.

What is likely to be the outcome of such tendencies as these? Our current sociology speaks almost exclusively of the proximate social results. What is perhaps more im-

portant is to speak of the immediate physiological and psychological results, because they throw light upon certain ultimate and still more important social consequences.

The immediate *social* results of an age of such great activity and great expenditure are clearly pointed out, for instance, by Professor Giddings in his "Democracy and Empire." These are, in brief, (1) an increase of wealth, culture, and refinement, followed by a marked increase of population; (2) a movement of the people toward the large cities; and (3) a displacement of the higher types of people by the lower, followed by an increase of crime, vagabondage, suicide, and feeble-mindedness.

These social results we may leave to the sociologist. But what is the effect of such an age of great activity and great expenditure upon the individual? This we believe to be just now the important question, and it is to the answer to this question that we hope the studies in this book may be a contribution.

The result, in a word, is a rapid and extreme fatigue of the higher brain and an unusual and imperative demand for rest

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and relaxation. Nature has provided various means for rest and relaxation, in sleep, play, sport, laughter, etc. But what will happen when the claims made upon the working brain are in excess of the powers of repair provided by these natural means of relaxation, or when these means themselves are neglected? There will be increasing irritability and probably reactions more or less violent and spasmodic, and if there are any artificial means of relieving the strain and temporarily restoring the balance, there will be recourse to such aids. The craving for narcotic drugs, tobacco, and alcohol, will be an example of the latter, and the recurrence of recreation crazes will be an illustration of the former. Finally, it is altogether possible that society as a whole may suffer from such excessive mental activity and such excessive tension, and that great social upheavals may follow, such, for instance, as war. Thus we may understand why the psychologist in treating the laws of relaxation may bring together in one volume subjects apparently so unlike as play, sport, laughter, profanity, alcohol, and war.

The principle involved in all the forms of

relaxation here studied is relief from tension or release from some form of restraint. Although this tension and restraint on the part of the individual are necessary conditions of all social evolution, they have been greatly intensified by the manner of life which characterizes the nineteenth and twentieth centuries. The repression of primitive impulses to the end of growing social needs is the fundamental law of human progress. Such continual repression necessitates constant effort, constant strain, and constant exercise of voluntary attention. It involves those higher brain centers whose development has conditioned human progress, and brings upon them a severe and constant strain, making rest and relaxation imperative.

When this everlasting urge of progress is excessive, as it has been in recent times, we may say that there is in a way a constant subconscious rebellion against it and a constant disposition to escape from it, and the method of escape is always the temporary reversion to simpler and more primitive forms of behavior, — a return to nature, so to speak. Sudden momentary and unexpected release from this tension, with instinctive reinstatement of prim-

itive forms of expression, is laughter. Daily or periodic systematic return to primitive forms of activity is sport or play. War is a violent social reversion to elemental and natural inter-tribal relations. Profanity is a resort to primitive forms of vocal expression to relieve a situation which threatens one's well-being. Alcohol is an artificial means of relieving mental tension by the narcotizing of the higher brain centers.

Thus the reader may understand why we have associated in a single volume these seemingly diverse kinds of human behavior — they are all forms of relaxation. That which is common to all these phenomena is the relief from the tension of our modern strenuous life by means of a return to nature, or a return to early and elemental forms of behavior which offer rest or release from the burdens of life. All therefore appear as forms of relaxation, some helpful and normal, others abnormal and brutalizing.

If we should succeed in tracing all of these modes of human behavior to their psychological sources, we may contribute something to the clearing-up of certain difficult social problems of the day. We may, for instance, be

enabled to see very clearly that evil and destructive forms of relaxation cannot be banished except by substituting normal and healthful forms.

The growing world-wide craving for alcohol, tobacco, and other narcotic drugs and the fatal and inevitable recurrence of war, with its fearful toll of human life and its still more fearful toll of hard-earned human savings, perplexing though they are as social problems, nevertheless might become much clearer in the light thrown upon them by the study of the laws of mental relaxation.

In the present stage of human culture, war seems like a species of insanity. It is no longer taken for granted. It no longer fits in as a part of the natural order of events. It seems anomalous and grotesque. It has lost its glory and seems now barbaric. We have been so long accustomed to have our disputes settled by courts of law, whose decisions are based upon principles of justice, that an appeal to mere brute force in the settlement of international disputes appears to us more and more absurd. Recently the reversionary character of war has been startlingly revealed to us by the reversionary logic and the reversionary morals

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which accompany it. And yet wars one after another, each more terrible than the last, are flaunted in the face of nineteenth and twentieth century civilization, are flaunted directly in the face of world-wide movements for international conciliation.

In like manner the use of alcohol, from the standpoint of modern science, appears as a kind of insanity. Scientific study has now shown that alcohol has none of the good effects upon the body or mind which formerly it was supposed to have, and that it is not even a stimulant. Yet the consumption of alcohol steadily increases.

Under these circumstances we should welcome any light, however small, which psychology can throw upon these subjects. The desire for alcohol and the instinct for war are phenomena which lie in the field of psychology, and reformers will make little headway against these evils unless they take into account the psychological motives.

We may, if we choose, redouble again our efforts against alcohol, but it would be the part of reason to find out, if we can, the causes of this growing desire in order that they may, if possible, be removed. So we may, if we

choose, redouble our efforts toward universal peace, but a more rational method would seem to be to find out the deep-lying causes of war and see whether anything can be done to remove them.

In the chapters which follow, an attempt is made to treat these subjects psychologically and in particular to consider them from the standpoint of phylogenetic experience. We must call to mind not only the animal and savage past from which man has emerged, but also the forces or tendencies which are manifest in his development. It is not sufficient to explain war by recalling that man is a fighting animal, that he has literally fought his way up to manhood. It is far more important to understand that his constant advance has been attended by conditions of tension and stress which have made his periodic and temporary reversion to primitive habits an actual condition of renewed progress. It is still more important to learn how the supreme intelligence with which evolution has finally crowned mankind may be used to devise some means by which these periodic reversions to savagery may be made unnecessary.

Lately we have seemed to forget that hu-

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man progress is rhythmical, that mankind advances by a series of relapses and recoveries, and that after each recovery there is new ground gained, sometimes very much new ground.

It may be that we have here the explanation of war, and it may be that there are conditions present in the social life of our times which intensify these rhythmical reversionary tendencies, so that no manner of humanitarian effort can withstand the periodic demand for war, just as no manner of prohibitive legislation and no manner of science sermons can stem the desire for alcohol. Especially in the last century has "progress," as it is called, been very rapid, — progress in science, in industry, in invention, in everything, — and the tension and rapidity of our lives have become correspondingly great. After great tension there must be great relaxation. There is a limit to the strain which the social mind can stand. It is imperative that we study the laws of mental tension and mental relaxation. The psychology of play may throw much light on the psychology of war.

No engineer or architect undertakes to build a bridge or skyscraper without an accurate

knowledge of the strength of material. Modern life is a kind of social skyscraper. The minds of the individuals who constitute society are the material. This material is put under too much tension. A collapse necessarily follows. In our social life these collapses appear as reactions or reversions, sometimes cataclysmic, as in the case of the war in Europe, sometimes sporadic, as in the dancing crazes and the amusement crazes in America.

In the following pages an attempt has been made to study the strength of this human material, to study the causes of the social strains and the forms and directions taken by the social reactions. If these studies teach us nothing more, they will at least show that the folly of explaining war by referring it to mere political rivalries is no less than that of referring amusement crazes to "frivolity" and the desire for alcohol to "depravity."

CHAPTER II
THE PSYCHOLOGY OF PLAY

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WHEN we think of play, we usually have in mind the play of children. But grown-ups likewise play, and to their plays we sometimes apply the word "sport." Since it is our purpose in this book to study relaxation in its various forms, evidently it is sport, rather than play in its narrower sense, that we are especially interested in, for one could hardly speak of the play of children as a form of relaxation.

Many books have been written about play, and it is the play of children that they usually deal with, a subject indeed of the greatest interest and the most vital importance. Little or no study has been made of the psychology of the play of adults, and this is unfortunate for two reasons: first, because of the importance of the subject itself in its relation to certain fundamental problems of our social life, and, second, because the play of children receives new and valuable light when it is studied in

its relation to the play of man in the wider sense.

While our interest, then, in this chapter is primarily in the play of adults considered as a form of relaxation, nevertheless it is very evident that we could make no progress in this study without first examining the nature of play in general and without first considering the theories of play which other writers have proposed. It will be interesting, then, to follow this plan and see whether the old theories of play are satisfactory, and if not, whether it is possible to propose a new theory which shall bring the plays of children and the plays of men into harmony with each other, and at the same time into harmony with the laws of recreation and relaxation in general.

Many theories of play have been offered, but they may all be referred to three principal ones, which have been named the Schiller-Spencer theory, the Groos theory, and the Recapitulation theory. An examination of these theories will no doubt show that none of them are wholly incorrect. They are rather partial views, not necessarily inconsistent with one another, but in need of more careful definition and limitation.

Herbert Spencer's theory is that play activities are those which do not directly subserve life processes, but are due to an inner need of using those bodily organs which are over-rested and under-worked. In the lower animals, therefore, the occasion for play would not arise, since all their energies are constantly expended in the maintenance of life; but in the higher animals and in man, time and strength are not wholly absorbed in providing for immediate needs. There is thus a surplus of vigor and this surplus is expended through the usual channels; not, however, in real activities, that is, in work, but in simulations of real activities, that is, in play. Play is thus the dramatizing of real life. Kittens chasing balls and children nursing dolls are illustrations.

Although modern writers might state this in somewhat different form, the theory is essentially sound so far as it goes. The rather hypercritical objection which has often been urged, namely, that we sometimes play when we are tired, is easily answered and need not be considered here. The real weakness of the theory is that it is incomplete. It explains why people — that is, grown people — tend to be active all the time when they are not sleeping.

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It explains nothing more than this and this needs no explanation, since it is characteristic of all animal life to be active. To explain how processes of nutrition lead to the accumulation of energy, which results in muscular activity, and that when there is no work to do this takes the form of play, is only a longer way of saying that an animal is alive and necessarily active. To speak of that energy which is not expended in life-serving processes as "surplus energy" is to assume that man exists to work, and that play is something extra, a kind of after-thought, to fill up the time.

A further difficulty with Spencer's theory is that it does not apply to the play of children at all, for the reason that the child is not a working animal, and does not provide his own sustenance. Hence there could be no "surplus energy." His whole life is a play life. Of course, if the theory had been stated a little differently, it would apply perfectly to the play of children. Children are alive and active, and their activity, not being directed to immediate life-serving ends, we call play.

But the most serious difficulty with Spencer's theory is that it does not explain the *form* taken either by the plays of children or of

adults. His view is that men and animals in their surplus-energy moods — that is, in their play — would simply go on doing in a dramatizing way what they are accustomed seriously to do in their working moods. The horse would run, the tiger would jump, the cat would chase imaginary mice, and the man presumably would plough and reap and dig and write books and give lectures. But this is precisely what the man does not do. He goes fishing, plays golf and baseball, goes to horse-races, and rides in automobiles. The Spencer theory, therefore, misses the whole point. It is true because it is a truism.

The Groos theory of play attempts to supply what the Spencer theory lacks, that is, to account for the actual form taken by the plays of children and young animals. Unfortunately, it gives little attention to the plays of adults.

According to the Groos theory of play, the plays of animals and children are instincts which have arisen through the action of natural selection because of their usefulness as a practice and preparation for life's later serious duties. Professor Groos has written two volum-

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inous books on the play of animals and the play of man containing a wealth of material on these subjects, but the reader cannot fail to be impressed by the lack of connection between the facts and the theory. The author seems, indeed, to have arrived at his theory of play through a purely deductive process. Since play is an instinct, and since, as we cannot admit the inheritance of acquired characters, every instinct has arisen in response to some definite practical need, and since it is evident that play has no immediate life-serving function, it must serve as a practice and preparation for life's serious pursuits. In this argument the premises may be sound, but the conclusion has no necessary connection with them. Plays, indeed, are instinctive, and no doubt all instinctive reactions have had at some time in our racial history some life-serving meaning. But the fact that natural selection has not yet eliminated the great multitude of old racial habits with which the young child's nervous system teems does not prove that they have been retained because of their usefulness as a practice and preparation for future life. In any animal species, such as man, that lives in a changing environ-

ment and has a long period of youth followed by a period of great rational power of transformation, we may expect behavior to be largely determined by inherited habit. As Professor Thorndike says: "We fear, not the carriers of malaria and yellow fever, but thunder and the dark; we pity, not the gifted youth debarred from education, but the beggar's bloody sore; we are less excited by a great injustice than by a little blood."¹ We are no longer so impressed by the infallible powers of natural selection as when Professor Groos wrote. Man's original nature is not so perfect as we once thought. We are more impressed by its "archaic unreason."

And even in the case of instincts which are now useful, it does not follow that, if they appear before the time of their life-serving usefulness, they must serve as a practice and preparation for such later use. Nature is not so parsimonious and calculating as that would indicate. It is not necessary to explain the doll plays of little girls as a practice and preparation for their future maternal duties. They may be simply exhibitions of a maternal in-

¹ Thorndike, *Educational Psychology*, "The Original Nature of Man," p. 281.

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instinct which sometime in the life of the individual may be useful, as when a tree showers down ten thousand seeds, of which one only may germinate. So the fighting plays of boys may be simply old racial habits, the line of least resistance for boyish activities.

In one sense, to be sure, if one should wish to look at the matter teleologically, play, like food or sleep, or like growth itself, is a preparation for manhood. But it is better to regard the child as a playing animal, realizing in himself his own end. Play, like growth or life itself, belongs to the concept of childhood. Play is just the name we give to the child's activities. In the Groos theory, as in that of Spencer, there seems to lurk the belief that the child is naturally quiescent, and that if he plays, his play must look forward to that particular aspect of life which we call his serious or bread-winning activity.

When we consider what the plays of children actually are, we discover, except in a limited number of imitative plays, but faint resemblance between them and the serious pursuits of adult man. They resemble rather the pursuits of primitive and prehistoric man, and many of them are like the sports of adults

of the present day. The plays most dear to the hearts of boys are running, jumping, climbing, coasting, skating, wrestling, wading, swimming, boating, fishing, hunting, shooting with darts, spears, arrows, or guns, building bonfires, robbing birds' nests, gathering nuts, collecting stamps, eggs, beetles or other things, flying kites, digging caves, making tree houses, spinning tops, playing horse, playing marbles, jackstones, mumblepeg, hide-and-seek, tag, blackman, prisoner's base, leap-frog, baseball, football, tennis, cricket, golf, etc. Children of all ages have the greatest interest in pet animals, dogs, cats, rabbits, birds, horses, etc. No small part of the child's life is occupied with playing with these pets and in earlier years with toy animals of all kinds. To these plays should be added, of course, the countless indoor games, such as checkers, chess, cards, dominoes, etc.

These children's plays have so little in common with the later pursuits of adult life that it is evident that some quite other theory is needed to explain them than the practice and preparation theory. When the boy is grown to manhood he will not be found doing these things, except in his hours of relaxation. His

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serious pursuits will take other forms. He will be found cultivating the soil, harvesting his crops, shoveling dirt, sand, or coal, blasting rocks from quarries and minerals from mines, building houses, buying, selling, manufacturing or transporting goods, teaching school, healing diseases, preaching sermons, practicing law, engaging in politics or commercial transactions, giving lectures or conducting scientific research. This is the "serious" life of to-day and the life of the ancient Greeks and Romans was much the same, and it is all far removed from the play life of the child, which likewise is much the same in ancient and modern times, and involves altogether simpler forms of response. If the serious life of to-day consisted in escaping from enemies by foot, horse, or paddle, in living in close proximity to domestic animals, in pursuit of game with bow or gun, in subsisting on fish caught singly by hand, in personal combat with fist or sword, in throwing missiles, striking with a club or pursuing an enemy, in seeking safety in trees or caves, in living in tents or tree houses, and in sleeping and cooking by a camp-fire, then we might venture to explain the play life of the child as "an instinctive

activity existing for purposes of practice or exercise and without serious intent." But these are not the pursuits of adult men, *except in their hours of sport*. Most of the plays of children find their significance, not in their *likeness*, but in their *unlikeness* to man's laborious duties. In fact, the plays of children bear a striking resemblance to the sports of men, and the latter would not be sports if they did not stand in direct contrast to work.

As regards the imitative plays of children, their resemblance to the serious activities of adult life is, of course, closer, and to them the Groos theory of play would seem to be less strained in its application. But the imitative plays themselves are not instinctive for the reason that they are imitative. If it is meant merely that imitation itself is an impulse which has been perpetuated by natural selection owing to its usefulness in preparing children for mature life, this view might be maintained, of course, if one still wished to put so much emphasis upon natural selection.

Other objections to the Groos theory may be passed with a mere reference. Perhaps the most serious of them is the failure of this theory to explain adult sports and to correlate

them with the plays of children. Again, one is troubled by the frequent use of the word "serious" as applied to the activities of the adult, while the plays of children are spoken of as "sham," "make-believe," or "self-illusory." This distinction can no longer be made. Child life and its plays are quite as serious and quite as real as the life of the man. If we are to speak of "ends," it would be difficult indeed to show that the life of the grown-up is any more final or purposeful than the life of the child. Would it not be just as appropriate to say that the man's toil and sweat are a preparation for the radiant childhood of the son and daughter whom he may beget, as that the plays of childhood are a preparation for the prosaic work-life of the father? And as for seriousness, to the boy hastily swallowing his dinner or rushing through some uninteresting task to join his fellows in a game of ball or a trip to the river, it is the latter and not the former that are serious and real. It is a notable fact that most children take but a passing or trifling interest in what they eat, and scarcely remember their food of yesterday. It is a peculiarity of the adult masculine mind to be very intent on the bread-winning aspect

of life and on the preservation of the species. Perhaps nature exploits man for these particular aspects of life, which in themselves are but partial views. They might even be looked upon as necessary evils, subordinate in "purpose" to childhood, play, sport, art, and sympathy, which are more real and final.

In reference to the Groos theory of play, some critics have been misled by the fact that certain games, like baseball, seem to provide valuable training in such qualities as obedience, coöperation, quickness of decision, fortitude in defeat, and endurance. That the game cultivates these virtues to some extent is doubtless true. One can hardly suppose, however, that natural selection has operated to form an instinct for baseball because of its especial usefulness in providing such training. Other explanations for the fascination of this game are much simpler, as we shall see. Women, also, have need of these virtues, but they do not care to play baseball.

Professor Groos has more recently supplemented his work by a *catharsis* theory of play,¹ already anticipated by American writers. Ac-

¹ "Das Spiel als Katharsis," *Zeitschrift für Päd. Psych. u. Ex. Päd.*, December 7, 1908.

According to this particular form of the *catharsis* theory, play is a kind of safety-valve for the expression of pent-up emotion, as for instance in the fighting plays of children, where the pent-up emotion is anger. According to this view, one would understand the emotions to be some kind of internal forces which would do damage if they could find no escape. It is not, however, probable that Professor Groos or any one holds this naïve view of the emotions, and the whole relation may be more simply expressed if we suppose that the fighting plays are among the natural or spontaneous activities of children and as long as they are freely indulged in, the child is free from hurtful emotions. If these activities are repressed, then no doubt would occur certain internal disturbances of a less healthful character. Where spontaneous responses are inhibited, readjustments are necessary and emotions are present. When the spontaneous response is resumed, the emotion subsides. In this way children's plays might seem to have a *catharsis* effect. In spontaneous unrestricted play, however, there would seem to be no such element present or necessary.

In the sports of men, indeed, a decided

catharsis effect is present. They are essentially purifying. But, as we shall learn in these studies, the *catharsis* effect is primarily due to a restoring of disturbed balance in the psychophysical organism. It is thus more nearly described as rest than as purification. Play brings relief from that peculiar form of fatigue which follows from our modern strenuous life. It rests those parts of the nervous system which our daily work most stresses.

But adult play has probably a *catharsis* effect of another kind. It has been shown by the researches of Walter B. Cannon and his associates ¹ that under the influence of strong emotion, say of fear or anger, a whole series of internal changes takes place in the organism, which are adaptive in their character and prepare the muscular system for the strenuous responses which the threatening situation demands. Of these the increased blood-sugar and the increased adrenin in the blood are typical. In the life history of our race these internal preparations for great muscular activity have been followed normally by the activity itself, say flight or combat. The circle

¹ Walter B. Cannon, *Bodily Changes in Fear, Hunger, Pain, and Rage*.

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is thus completed as nature meant it to be. But in our modern life of constant inhibition, where the emotions themselves are present often enough and the internal preparation for great muscular exertion takes place, the muscular responses themselves, owing to social restrictions and other causes, are necessarily greatly limited, if not altogether repressed. Hence arises a feeling of irritability, having its source perhaps in the poisoning of the blood by the presence of these unused activating substances. All kinds of active sports, therefore, involving muscular activity serve as substitutes for the original responses phylogenetically determined. Thus it would appear that sports have an actual *catharsis* effect in the case of adults, and that in children, while this effect is theoretically absent, it is, of course, actually present in increasing degree as the child becomes a man. This *catharsis* effect of play, laughter, and profanity should not, however, be interpreted in such a way that these forms of relaxation are considered to be mere drainage channels for shunting off accumulated energy.¹ All forms of play and sport, as

¹ Compare Dr. George W. Crile's discussion of laughter in his book, *The Origin and Nature of the Emotions*, pp. 77-111.

well as laughter and profanity, have themselves been phylogenetically determined. They are indeed the older and more original responses, and their principal *catharsis* effect is not due to their draining off accumulated energy and using up the various energizing substances in the blood, but rather to the complete rest which they afford to parts of the brain over-stressed in our modern life of work.

The third theory of play has been called the Recapitulation theory. This takes full cognizance of the phylogenetic significance of play, and indeed is based upon it. As regards the latter, all future theories of play must take carefully into account the numerous and striking similarities between the plays of children and the pursuits and customs of primitive and prehistoric man as they have been pointed out by President G. Stanley Hall and his associates.¹

But the question arises as to the reason for this resemblance, and if the correct reason is not found, the whole significance of play may

¹ Compare especially the writings of Hall, Gulick, Guillet, Robinson, Patrick, Bolton, Johnson, Brewer, and Quantz. See bibliography at close of this chapter.

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be lost. The theory in question does not explain this resemblance except by referring it to a so-called law, the law of recapitulation, according to which each individual passes through a series of stages in his development corresponding to the stages of racial development. Even in the sphere of embryology the validity of this law has been much questioned, and it is looked upon with increasing distrust when applied to the period of post-natal or psychological development. It should be said, however, that this theory of play is the only one that has successfully attacked the specific problem of accounting for the form taken by children's play. Perhaps the most serious difficulty with this theory is its failure to explain the plays of adults and to correlate them properly with those of children.

Our main purpose in the present chapter is to examine more carefully the grounds of the resemblance between children's plays and the pursuits of primitive man and, more particularly, to explain if possible the similarity which exists between both of these and the sports of the mature man of the present time. To this end the following introductory definitions and propositions may be offered, which,

if found useful and valid, will considerably simplify the psychology of play.

1. The term "play" may be applied to all those human activities which are free and spontaneous and which are pursued for their own sake alone. The interest in them is self-developing and they are not continued under any internal or external compulsion. Play will thus include practically all the activities of children and the larger share of those of adults, such, for instance, as baseball, football, tennis, golf, polo, billiards, and countless other games and sports; diversions such as traveling, hunting, fishing, yachting, motor-ing, flying, dancing; vacation outings, games, races, spectacles, fairs, tournaments, and expositions; the theater, opera, moving pictures, lectures, and entertainments; the enjoyment of music, painting, poetry, and other arts; the daily paper, the magazine, the short story, and the novel.

The term "work," on the other hand, will include all those activities in which by means of sustained voluntary attention one holds one's self down to a given task for the sake of some end to be attained other than the activity

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itself. Such activities involve mental stress, strain, effort, tension, concentration, and inhibition.¹

2. The plays of children and the sports of adults are to be closely coördinated and explained by reference to the same general principles.

3. There is a striking similarity between the plays of children and the sports of men on the one hand and the pursuits of primitive man on the other. *This similarity is due to the fact that those mental powers upon which advancing civilization depends, especially voluntary and sustained attention, concentration, analysis, and abstraction, are undeveloped in the child and subject to rapid fatigue in the adult.*

¹ The question may be asked how, according to the above definitions of work and play, we shall classify that form of work which becomes so interesting as to be self-developing and requires no effort of attention to pursue it. A man may become so interested in his garden or in his inventions or in his professional pursuits that his work may take on some of the characteristics of play. Nevertheless, this kind of work demands the exercise of mental powers of a high degree of complexity, and is far more fatiguing than play or sport as above defined, though far less so than that kind of work which has been called toil, or drudgery, where interest fails and the strain of attention is at its maximum.

Hence the child's activities and the play activities of the adult tend always to take the form of old racial pursuits.

If we look at the matter physiologically, it is very evident, in the case of the adult, that there are some brain centers, or some brain tracts, or some forms of cerebral functioning, that are put under severe strain in our modern strenuous life and that there must be some kind of activity which will relieve these centers, or these tracts, during a considerable portion of each waking day and involve other centers not so subject to exhaustion. Such activity we call play or sport. Perhaps the word "relaxation" would be a more exact description of it. For our present purpose it does not matter in the least what these centers are or what manner of cerebral functioning this is. It is only necessary to note the evident fact that there is some kind of cerebral activity associated with those peculiar mental powers the development of which has made possible human progress.

Nor, again, is it necessary for our present purpose to make any exact enumeration of these so-called higher mental processes which

distinguish the modern civilized man. Generally speaking, however, they include a constantly increasing power of sustained attention of the voluntary kind, controlled association, concentration, and analysis, together with a constantly increasing power of inhibition. The individual becomes increasingly able to hold steadily in view the image of a desired end, to inhibit the old and habitual responses which are no longer appropriate to that end, to analyze a given situation in thought, so that the response may be to certain elements in the situation rather than to the situation as a whole, and thus to meet a given situation with a new response. *Only the fully developed adult mind is capable of much thinking of this kind, and at best it is highly fatiguing and cannot be continued through many hours of the waking day, so that all, or almost all, the hours of the child's day and the larger number of hours of the adult's day must be filled with responses of the simpler, more elemental, and racially older kind.* Consequently children's play and adult sport tend to take the forms of old racial activities, involving brain tracts that are old, well worn, and pervious.

It is well known that the present tendency

in both historical and anthropological study is to place less emphasis on the differences in the mental constitution of different races of men.¹ All existing races and all historical ones, so far as we can see, are much alike in their mental powers. But from our present point of view these races are all modern. It is clearly evident that in comparing modern civilized man with the highest of the lower animals or with his prehistoric, if not even with his primitive, ancestors, there has been an unmeasured advance in the powers above mentioned. Even this assumption, however, is not necessary so far as our present theory is concerned. It is merely necessary to notice that in seeking relief from the fatigue involved in that sustained and voluntary attention, controlled association, analysis, and abstraction which are essential to our or to any advancing civilization, we fall back upon a set of activities which no longer involve these processes, but which through ages of use have become familiar and easy.

All the evidence that we have points to the validity of the law that those peculiar forms of

¹ Compare Boas, *The Mind of Primitive Man*, and Thorndike, *Ed. Psych.*, 1, 240.

mental activity which have developed late in the evolution of man are most affected by fatigue—a law fully sustained by the study of psychasthenics and their incapacity for higher mental operations, as well as by the observation of people normally fatigued, while it is known that the disintegration of the nervous system in disease follows the reverse order of its development.

Hence we understand why children's play and adult sport take the form of hunting, fishing, camping, outing, swimming, climbing, and so on through the long list. The more elemental these activities have been in the history of racial development, the greater release they afford, when indulged in as relaxation, from the tension of our modern life.

Those forms of mental response which are developed late in the history of the race, and late in the life of the child, that tense and strenuous activity upon which modern progress depends, the power to hold ourselves by sustained attention and sustained effort down to hard and uninteresting tasks for the sake of some ultimate end, the concentration of the mental forces upon problems of science, philosophy and invention, and the inhibition

of old and undesirable responses, — all these bring quick and extreme fatigue, and demand rest for the corresponding parts of the brain. In sleep these higher mental processes enjoy almost complete suspension. But the exercise of these powers during the long hours of our waking day would result in speedy collapse. It is clear therefore that our daily activity must be made up quite largely of responses of the simpler type, which shall give exercise to our muscles and sense organs and invoke older and more elemental forms of mentality, and at the same time allow the higher ones to rest. Such is relaxation in all its forms, and of such consists almost wholly the life of the child. For the brain tracts associated with the above-mentioned forms of mental activity are undeveloped in the child, as they are in early man, so that we may say with considerable truth not that the child *ought not* to work, but that he *cannot* work.

In the following pages we shall review some of the instances of the striking resemblance between the habits of our human ancestors and the plays of children and men, beginning with the simpler illustrations drawn from the

plays of children and proceeding to the more instructive ones connected with the sports of adults.

Haddon and Tylor have studied the history of the kite and the top and of marbles, and have shown their very ancient character and their connection with early religious and divinatory rites. The same may be said of casting lots, throwing dice, games of forfeits and games with common playing cards. The mental habits of our ancestors, as we know, survive in the counting-out rhymes, in the charms and talismans and superstitions of children. One recalls the magic formula used by Tom Sawyer for driving away warts:—

You got to go by yourself in the middle of the woods where you know there is a spunk-water stump, and just as it's midnight you back up against the stump and jam your hand in and say:—

Barley corn, barley corn, injun meal shorts,
Spunkwater, spunkwater, swaller these warts;

and then walk away quick eleven steps with your eyes shut, and then turn around three times and walk home without speaking to any one, because if you speak, the charm's busted.

The mental habits of the child seem like

echoes from the remote past, recalling the life of the cave, the forest, and the stream. The instinct exhibited in infancy, as well as in boyhood, to climb stairs, ladders, trees, lamp-posts, anything, reminds us of forest life; the hide-and-seek games which appeal so powerfully even to the youngest children recall the cave life of our ancestors, or at least some mode of existence in which concealment from enemies, whether human or animal, was the condition of survival; while the instinct of infants to gravitate toward the nearest pond or puddle, the wading, swimming, fishing, boating proclivities of every youngster, seem like a reminiscence of some time when our fathers lived near and by means of the water.

During a long period in the evolution of life among the higher animals and in the early history of man, the one all-important factor was *speed*, for upon it depended safety in flight from enemies and capture in pursuit. This ancient trait has persisted and survives to-day in a deep instinctive joy in speed, whether exhibited in running or coasting or skating or in the speed mania which lends such delight to motoring, flying, fast sailing, and fast riding.

Again, the ancient life of pursuit and capture persists upon every playground in the familiar games of tag, blackman, pull-away, and a hundred others. Indeed, for the exhibition of this instinct, no organized game is necessary. Sudden playful pursuit and flight are seen wherever children are assembled. The ancient life of personal combat is mirrored in the plays of children in mimic fighting and wrestling. The passion of every boy for the bow and arrow, sling, sling-shot, gun, or anything that will shoot, reveals the persistence of deep-rooted race habits, formed during ages of subsistence by these means.

There was a time when man lived in close relation with and dependence upon wild and domestic animals. This period is reflected in many forms in the child's life, in his animal books, his animal toys, his Teddy bears, in his numerous animal plays. The former dependence of man upon the horse is shown in the instinct of the child of to-day to play horse, to ride a rocking-horse, or a stick, or anything. The child's first musical instruments, the rattle, the drum, and the horn, were the first musical instruments of primitive man.

These illustrations could be multiplied indefinitely. They show the limitations of the Groos theory of play, for none of the plays of this class have much to do in preparing the child for the life of to-day, or in giving him special practice for his future work. We ourselves are so much slaves of the past in our habits of thought that we do not easily realize how far from the actual life of the present day is this play-life of the child. The real world of to-day is that of the laboratory, the school, the library, the bank, the office, the shop, the street, the factory, the farm and the railroad. Notwithstanding the child's imitative bent, his world, as shown in his tales, his dreams, and the plays he loves best, is that of the forest, the stream, the camp, the cave, the hunting-ground, and the battlefield.

Those things which have such a vital and absorbing interest for the boy have had at one time in our racial history an actual life and death interest for mankind. Take, for instance, the jack-knife. How many knives has your boy had and lost, and what rich joy there is in every new one! We see how the practice and preparation theory of play fails here. The knife has no significance in society now. It

has degenerated to mere finger-nail purposes. But at one time it meant life in defense and food in offense. Your boy's supreme interest in the knife is a latent memory of those ancient days. Those who could use the knife and use it well survived and transmitted this trait to their offspring. The same could be said of the sling, the bow and arrow, and of sports like boxing, fencing, and fishing.

Consider the fascination of fishing. This is not a practice and preparation for the real life of to-day, but a reverberation of phyletic experience. In a summer resort where the writer was a visitor the past summer, day after day the whole male population of the hotel resorted to the fishing grounds. They paid two dollars and a half a day for a guide, seven dollars a day for a motor-boat, and a cent and a half each for worms. Surely a stranger uninitiated into our habits would have been amazed to see these returning fishermen at night indifferently handing over their catch to the guide. It was the fishing they desired, not the fish, and yet great was their woe when one large fish was lost in the act of landing. It is estimated by the New York "Times" that on Sundays and holidays when the weather is fine, twenty-five thousand

people in New York City go fishing at a minimum cost of one dollar each, and of these no doubt more than ninety-five per cent go for fun and not for the fish. At some stage in the history of human development fishing was without doubt a general means of subsistence. Those who could catch fish survived and handed down this instinct. Likewise the fascination of gathering wild nuts and berries is out of all proportion to the value of them when gathered. But nuts and berries were once of vital concern to our fathers.

It is in baseball and football, however, that we best see the phylogenetic significance of play. The daily paper is a good index of popular interest. Here we shall often find perhaps seven, perhaps twenty columns devoted to baseball, while no other single subject whether in politics, art, literature, or science, aspires to two columns. How shall we explain the absorbing interest in baseball and football as well as in horse-racing and prize-fighting? Here again, phylogenetic experience becomes the key to the problem of modern sports.

In baseball we have a game combining three of the most deep-seated racial instincts, the instinct to throw, to run, and to strike. During

untold periods of the life history of our race, survival has come to him who could throw the straightest, run the swiftest, and strike the hardest. To throw something at something is almost as natural for a boy as to breathe. Throwing, batting, running are no longer of any service in this age of mind, but they were the conditions of survival in the distant past. Baseball reinstates those ancient attitudes and brings a thrill of cherished memories. Any one who has ever held a bat in hand and assumed the expectant attitude of the batter knows the peculiar thrill which is explained only by recalling that his distant ancestors in just that attitude beat down with a real club many an opposing foe, whether man or beast, and those who held clubs in this position and struck hard and quickly survived and transmitted this instinct. Dr. Gulick says: —

Baseball is a complex of elements all of which date back certainly to our prehuman ancestors. The ability to throw a stone with accuracy and speed was at one time a basal factor in the struggle for survival. The early man who could seize a bough of a tree and strike with accuracy and great power was better fitted to survive in the brutal struggles of those early days than the man not so endowed. He could defend his

family better, he was better fitted for killing game, he was better fitted for overcoming his enemies. The ability to run and dodge with speed and endurance was also a basal factor.¹

The instinct to throw, as the same author shows, belongs to boys only, scarcely appearing in the case of girls. The awkward throw of girls, like the left arm throw of boys, is well known. The plays of girls reveal their own set of instincts recalling the habits of primitive woman. "We are the descendants of those men who could throw and those women who loved children."

Football excites still greater enthusiasm than baseball because it reinstates still more primitive forms of behavior. The fascination of football, like that of other sports which have a deep appeal to the human mind, is explained only by the facts of mental evolution. We have to go back in human history to those ancient scenes and those ancient pursuits which have left an indelible imprint on the human brain, and we have to remember that in our hours of relaxation we demand a complete release from those newer forms of mental activity which

¹ Luther Gulick, M.D., "Interest in Relation to Muscular Exercise," *Amer. Phys. Ed. Rev.*, VII, 2.

condition progress and civilization, and a temporary return to the older and easier ones.

The one great elemental fact in human history is the fact of war. Mankind has come up through a history of warfare. It has been man against man, group against group, tribe against tribe, nation against nation, from the beginning. Man is at home on the battlefield. There he has received his training and gained his strength. His soul is full of latent memories of strife and conflict. The football field is a mimic representation of this age-old field of battle. Here again is found the face-to-face opposition of two hostile forces, the rude physical shock of the heavy opposing teams, the scrimmage-like, *mêlée* character of the collisions, the tackling, dodging, and kicking, and the lively chases for goal as for cover.

Football is more fun than baseball and attracts larger crowds,¹ because it is more dramatic, more like a fight. It awakens in us deep-seated slumbering instincts, permits us to revel for a time in those long-restrained

¹ According to the press reports, seventy thousand spectators have witnessed at one time the Rugby game in America, and one hundred thousand, the Association game in England.

impulses, relieves completely the strain of the will, and so serves all the conditions of relaxation.

By inner imitation the spectators themselves participate in the game and at the same time give unrestrained expression to their emotions. If at a great football game any one will watch the spectators instead of the players, he will see at once that the people before him are not his associates of the school, the library, the office, the shop, the street, or the factory. The inhibition of emotional expression is the characteristic of modern civilized man. The child and the savage give free expression in voice, face, arms, and body to every feeling. The spectators at an exciting football game no longer attempt to restrain emotional expression. They shout and yell, blow horns and dance, swing their arms about and stamp, throw their hats in air and snatch off their neighbors' hats, howl and gesticulate, little realizing how foreign this is to their wonted behavior or how odd it would look at their places of business. So also the defeated players cry like babies, as did the heroes of ancient Troy.

The excitement of the spectators cannot

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be explained by the importance of the scenes before them, for, as in the case of the horse-race, they have little or no relation to the serious life of the present; but the scenes are those which were once matters of life and death.

The prevalence of gambling in connection with football, as well as in horse-racing, prize-fighting, and other popular sports, illustrates the reversion to primitive morals accompanying the return to early pursuits.¹

This prevalence of gambling and of other obvious evils² connected with intercollegiate athletics has suggested to some the desirability of abolishing these sports. A very different conclusion, however, seems to be forced upon us by the study of the laws of relaxation in its broader aspects. Not until we understand the psychology of alcohol and of war and of the foolish amusement crazes shall we recognize the full significance and the full value of athletic contests and intercollegiate rivalries. The evils mentioned are real enough and most

¹ Compare also G. T. W. Patrick, "The Psychology of Football," *Amer. Jour. Psych.*, xiv, 104-17.

² For a full list of these evils, see the article by President Foster, "An Indictment of Intercollegiate Athletics," in the *Atlantic Monthly* for November, 1915.

deplorable, but it does not follow that they would not be present in other or worse forms in different connections if there were no intercollegiate athletics.

The intense interest aroused in intercollegiate sports is no doubt to some extent an echo of the old ancestral rivalries between social groups. They appeal, therefore, to deep-seated human instincts and fulfill to a marked degree all the requirements of relaxation and recreation.

It should, of course, be remembered that the social value of these sports relates rather to the spectators than to the players. For the latter, indeed, they may become a form of work. But the participants as spectators are numbered by the thousands, and for all of these the games serve as valuable forms of relaxation. The substitution of intramural football and baseball for the intercollegiate games would result in the loss to a large extent of the valuable holiday and festival aspects of the latter sports.

Furthermore, the intense interest in intercollegiate football and baseball has resulted in a very wide actual participation in these games by the students in colleges, universi-

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ties, and in public and private schools throughout the country.¹

The law that the more elemental the character of our responses, the greater their value as relaxation and release from the tension of the strenuous life, is well illustrated in the circus and amphitheater of the Romans. When we recall the sports of ancient Rome, we see again that in sport we have a psychological factor of the greatest importance and a profound psychological problem. Juvenal's phrase "bread and games" has become familiar. The popularity of any emperor was nearly proportional to his liberality in the matter of games and spectacles. Emile Thomas says: "After the sack of Rome by Alaric, the miserable remnant of the original inhabitants, and the peasants who flocked in from the environs to the number of ten thousand, loudly demanded games in the Circus, which had to be celebrated among the smoking ruins."

The Colosseum, whose magnificence receives a new meaning from our point of view, accommodated eighty-seven thousand people. The Circus Maximus was one of the most imposing

¹ Compare the article by Lawrence Perry, "The Ideal College Game," in *Scribner's Magazine* for June, 1915.

of Roman structures. It is said that four hundred and eighty-five thousand spectators were in actual attendance at once upon its spectacles.¹ The shouting could be heard in the suburbs of Rome. The upper wooden seats collapsed at one time, killing eleven hundred people. Rome had theaters, too, but the largest of these, that of Pompey, had seats for only forty thousand spectators, and despite the political interest which attached to many of the theatrical exhibitions, we must believe that the interest in the theater was insignificant when compared with that of the amphitheater and circus. Trajan gave a single entertainment lasting one hundred and twenty-three days.

Now, what was the character of these amusements which so fascinated the Roman populace? They were horse-races, gladiatorial combats, and the exhibition and contests of wild animals. Man's racial history has been one long battle with the lower animals, defen-

¹ The seating capacity of the Circus was probably about three hundred thousand. Some manuscripts of the *Notitia* give the number as four hundred and eighty-five thousand. Some modern critics believe that the actual seating capacity of the Circus was only about two hundred thousand at its greatest enlargement. Great crowds, however, witnessed the events from the surrounding hills and houses.

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sive for life and safety, offensive for food and sustenance. So far as the workaday world of the Romans is concerned, it was much the same as ours, taxing the same higher mental powers and demanding relaxation in the form of older and simpler pursuits. In the gladiatorial combats we see the hand-to-hand encounters of early man, almost as far removed from the actual daily life of the Romans as it is from ours. In the display of wild animals and in their deadly combats with each other and with man, we see mirrored in Roman sports the old life of the forest and plain. The mood of the spectator at the Colosseum changes also to suit the character of the spectacle, and for the time he is no longer the civilized Roman of the second century, but boisterous, cruel, intoxicated with the sight of blood. So strong was the craving for the old feral scenes that professional hunters were kept in the remotest parts of Asia and Africa to capture alive every species of beast to be exhibited and killed for the amusement of Rome. Eleven thousand animals were produced by Trajan at a certain spectacle. Much has been said about the brutalizing effect of these games upon the Romans; *but if we have*

correctly outlined the psychology of sport, we see in such games as these not a brutalizing agency, but an afterglow of brutality left behind. The modern circus, menagerie, and zoölogical gardens offer similar entertainment on a smaller scale, and appeal to the same instincts.

The human race has reached a stage of evolution in which such sports as gladiatorial shows, prize-fights, and bull-fights hark *too* far back and are no longer endured, but before we condemn them too harshly it would be well to compare the number of men and animals killed in these ancient exhibitions with the number of men and horses killed in a modern war.

Success to-day does not depend upon swiftness of foot or swiftness of horse, yet our sports take the form of foot-races and horse-races. There was a time when swiftness of foot and swiftness of horse were vital. So in our sports these old scenes are reënacted. Stage managers, story-writers, and moving-picture shows seek always for a new thrill. It is sometimes thought that the new and unexpected is thrilling. The reverse is true. The thrilling is the old and elemental. When love and warfare fail, the story-writer can always

fall back on the horse-race for thrills. The horse has little significance for the life of to-day and it is fast becoming less, but he has had an intimate relation with the life history of the race. It is difficult to read any well-told story of a horse-race or chariot-race, or any account of human rescue by means of equine or canine intelligence, without an emotional disturbance out of all proportion to the importance of the events. In fact they have no significance now. They belong to the past.¹

In this connection it is interesting to recall that some years ago an English magazine published the results of a census which it had made of the order of popularity of Browning's shorter poems. The list contained about fifty of these poems, including such matchless gems as "Evelyn Hope," "Abt Vogler," "My Last Duchess," "Rabbi Ben Ezra," etc. But the first place of all the fifty was given to the poem entitled, "How they brought the Good News from Ghent to Aix," a poem without signifi-

¹ A fine linguistic record of the importance of the horse in one branch of our Aryan ancestors is seen in Greek family names, of which a great number contain the root-word for horse; e.g., Philip (horse-lover), Hippocrates (horse-tamer), Leukippus (white horse), Chrysippus (golden horse), etc.

cance of thought or sentiment, but depending for its interest upon the incident of a desperate horseback ride from Ghent to Aix. The compelling force of this poem will be felt by the reader, if we quote some of the first and last lines:—

I sprang to the stirrup, and Joris, and he;
I galloped, Dirck galloped, we galloped all three;
“Good speed!” cried the watch as the gate-bolts
 undrew;
“Speed!” echoed the wall to us galloping through;
Behind shut the postern, the lights sank to rest,
And into the midnight we galloped abreast.

And there was my Roland to bear the whole weight
Of the news which alone could save Aix from her
 fate,
With his nostrils like pits full of blood to the brim,
And with circles of red for his eye-sockets’ rim.

Then I cast loose my buffcoat, each holster let fall,
Shook off both my jack-boots, let go belt and all,
Stood up in the stirrup, leaned, patted his ear,
Called my Roland his pet-name, my horse without
 peer;
Clapped my hands, laughed and sang, any noise,
 bad or good,
Till at length into Aix Roland galloped and stood.

And all I remember is — friends flocking round
As I sat with his head ’twixt my knees on the ground;

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And no voice but was praising this Roland of mine,
As I poured down his throat our last measure of
 wine,
Which (the burgesses voted by common consent)
Was no more than his due who brought good news
 from Ghent.

From the phylogenetic standpoint which we have thus gained, both children's play and adult sport come into clearer light. Thus we understand why adult sport resembles the activities of early man. The older, the more basal, the more primitive, so to speak, the brain patterns used in our hours of relaxation, the more complete our rest and enjoyment. Just in proportion as the sport is primitive, so much greater is the sweet peace which it seems to bring to the troubled soul, simply because it involves more primitive brain tracts and affords greater release from the strenuous life.

So while we find one hundred and fifty spectators at an intercollegiate debate, we find a thousand at an automobile race, five thousand at a horse-race, thirty thousand at a great baseball game, seventy thousand at a great football game, and three hundred thousand at a gladiatorial show. The nervous tracts which function in such activities as hunting and fish-

ing and swimming and boating and camping, in football and baseball and golf and polo, and in horse-racing and bull-fighting, are deep worn, pervious, and easy. During countless generations the nerve currents have flowed through these channels. Witnessing these rude contests, pictures of former ages, or taking part in these deep-seated, instinctive actions brings sweet rest and refreshment. "The racially old is seized by the individual with ease and joy." The soothing restfulness of the open grate fire is thus probably due to latent or subconscious memories of the camp-fire, which so long brought rest and comfort to the early man.

From this point of view, the dancing craze is less difficult to understand. In explaining such phenomena it will not do to rely too much on the behavior of the crowd, as some writers have done. To call it a craze, a fashion, an epidemic, and to refer it to the laws of imitation which govern a crowd, is not to explain it. Imitation alone is a very feeble social force. It becomes a powerful force only when the imitated action satisfies some need. The desire to dance, whether it be conscious or unconscious, may be very strong, but, as long

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as it is under the ban of social disapproval, the desire may be largely repressed. When these social restrictions are removed, then the practice may become general, and if the desire is strong enough, it may spread like an epidemic. This is about as far as the law of imitation helps us in explaining a dancing craze.

Dancing is a pastime as old as the human race. The muscles involved are the larger muscles of the trunk and legs,—fundamental, as they have been called. The brain patterns concerned are, therefore, the oldest and earliest in racial development. Progress has been, first, in the direction of the finer and more differentiated movements of the arms, hands, eyes, and vocal organs, and then, in our own times, more and more toward purely intellectual activity. Rest and relaxation, therefore, always tend to take the form of exercise of the fundamental muscles. As compared with other forms of relaxation which we have been studying, such as hunting, fishing, horse-racing, ball-playing, etc., dancing is ultra-primitive, both in respect to the fundamental character of the muscles involved, and also in respect to the simple rhythmical form of the

movements. It affords, therefore, a complete rest of the higher brain and provides a very perfect means of relaxation.

If we consider the manner of life of civilized man of the twentieth century and compare it with that of one hundred years ago, we shall understand the peculiar fascination of the dance at the present day. From the beginning of his racial history, there has been one set of muscles which man has continuously used, however intermittent the use of the others has been, and these are the muscles of the legs. Until recent years he has been on his feet most of the time when not asleep — standing, walking, running, climbing. Now he sits in a chair, working his brain or his eyes or his hands, or else he rides in a carriage, automobile, street-car, or train. It is doubtful whether this sudden and radical change can take place without disastrous consequences. At any rate, we can understand why dancing as a mode of recreation should in these circumstances appeal to us so powerfully as to take the form of an epidemic when once fashion has given its sanction.

When we speak of dancing as a very perfect means of relaxation, we refer, of course, to

healthful forms of the dance as exhibited in the folk-dances and in the dances of children. The modern social dance as it exists in America, in which the sex element has become too prominent, associated also as it is with night hours, electric lights, dust, and bad air, has slight recreational value as compared with the earlier and healthier forms of folk-dancing. To understand the truth of this, it is only necessary to ask ourselves whether the dancers of to-day are likely to be the fathers and mothers of the future citizens of America. Sociologists are already well aware that we must look in quite another direction for these.

The game of golf, again, has a peculiar restorative power surpassing all medical or other therapeutic arts. We may be physically and mentally weary from a morning's work. Despite the strenuous physical exertion of an afternoon at golf, our fatigue is lessened, not increased. Fresh air does not explain it. It is a return to the primitive outdoor life. We stride over hill and through ravine; we stumble into ditches; we carry a club and strike viciously at the ball; we follow the ball with the eye and search for it in the grass as our forefathers searched for their arrows and missiles;

we use our legs and our arms; we let the nerve currents course through the more ancient channels; we revel unconsciously in latent memories and old race habits and come back to our work rested, renewed, and refreshed.

But you may say golf and bowling and baseball and prize-fighting require skill and close attention and tax mind as well as muscle. But this is not the point. Our remote ancestors had skill. To see quickly and correlate nicely eye and hand, or eye and foot, was an early acquisition. It is not this that fatigues us in modern life. It is the everlasting, high-pressure grind. It is holding ourselves down to hard working and hard thinking and long-sustained tasks. It is analysis, concentration, effort, dead lift of mind, — the kind of mental work that digs Panama canals, perfects automobiles and airships, discovers new laws of mind and matter in the laboratory, thinks out new fields for the investment of capital, scrutinizes countless court records for precedents in law which may clear our clients, holds the ship's captain on the bridge in times of peril, keeps the soldier at his post and the clerk at his desk through the long hours and the weary days. As the strenuous

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life increases in city and country, there is an increased demand for relaxation, whether in the form of baseball or football, horse-racing or gambling, or in the form of the automobile craze, or the auction-bridge craze, or the dancing craze, or the moving-picture craze. These are all methods of escape from the clutch of the modern strenuous life, exhibited in all countries, but most noticeably in America, for whatever it is that is driving the human race forward in the path of progress so rapidly and relentlessly seems to have gripped the Anglo-Saxon people particularly hard.

Even these many forms of relaxation are not sufficient to relieve the overwrought brain, and so in ever-increasing amounts we have recourse to artificial means of relaxation through narcotics, such as alcohol, tobacco, and other drugs. Alcohol, by its slight paralysis of the higher and later developed brain tracts, accomplishes artificially what is effected naturally by play and sport, that is, it liberates the older, freer life of the emotions and the more primitive impulses.

Thus, from our new point of view, the difficulties in regard to children's play disappear. The reason why children play and why their

plays take reversionary forms is now evident. The higher brain tracts, those making work possible, are not developed. If a child does *anything*, he must play, i.e., his activity must take the form prescribed by the brain patterns already developed, and these are the old racial ones. He is equipped with a nervous mechanism adequate for old racial activities and for the most part with these only. The little girl hugging and nursing her doll is not the victim of an instinct whose purpose is to prepare her for later maternal duties. She is simply doing what her mother and her grandmothers have done since the beginning. If they had not done so, she would never have been born.

The child does not play because of surplus energy, for under normal conditions *all* his energy is expended in play; the child is a playing animal. Nor does he play because of an instinctive need of practice and preparation for life's serious duties, for the form of the latter is constantly changing while the plays of children remain much the same from year to year and century to century. Nor, finally, does he play because it is necessary for his complete growth that he should pass through the several stages of racial history. He plays

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because he is a child, and to the child's natural and active life we give the name "play" to distinguish it from the life of conscious self-direction, of strain and effort and inhibition which evolution has imposed upon the adult human being.

When we say that all of the activity of the young child takes the form of play, the statement should be regarded as a general one. As the term "play" is actually used, there are certain minor classes of responses which are not included. The child's instinctive shrinking from a large furry animal is as much a part of his original nature as his tendency to run and jump and climb and wade. His responses in the taking of food, likewise, and in protecting himself by crying are original inherited responses. But to crying and sucking and shrinking from objects of fear we do not give the name "play," because, being of the immediate life-serving kind, they bear a closer resemblance to those responses to which in later life we give the name "work," and we reserve the term "play" for that larger and characteristic class of activities which are distinguished from the conscious self-directive life of the man. The play reactions of chil-

dren, therefore, belong to their original nature. Social heredity may account for the forms of organization of many of the plays of children as well as the *sham* character which they assume when compared with their originally serious form, but the *elements* of the great mass of the plays which are dearest to the hearts of children are truly instinctive.¹

The educational application of this theory of play presents less difficulties than the older theories. It is not necessary that the child should live through and live out any series of savage stages. It is merely necessary that he should be kept active with the mental and physical equipment that he has, that work should not be too early imposed upon him, and that his plays should be so organized and supervised that, while retaining the elementary form of his instinctive responses, they may be physically, morally, and socially harmless. For instance, a boy, if he is a boy, must throw. It is just a question of whether he shall throw stones at a cat, at a street-car, at little children, or whether he shall throw a curved ball to the catcher. The latter is harmless, the former dangerous. Again, a boy's instinct of

¹ Compare James's *Psychology*, II, 429, n.

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rivalry is very strong. He must do something daring, get ahead of some one, as those of his ancestors who survived did before him. If a proper playground is provided, all these things may be done without injury to society. Again, in response to the dancing instinct, the children must be taught the graceful and healthful folk-dances.

In our modern cities supervised play has become necessary for social order for the reason that the old conditions of spontaneous, healthful play have been taken away.

Says Luther Burbank, quoted by George E. Johnson:—

Every child should have mud-pies, grasshoppers, water-bugs, tadpoles, frogs, mud turtles, elderberries, wild strawberries, acorns, chestnuts, trees to climb, brooks to wade in, water-lilies, woodchucks, bats, bees, butterflies, various animals to pet, hay fields, pine cones, rocks to roll, sand, snakes, huckleberries, and hornets; and any child who has been deprived of these has been deprived of the best part of his education.

As regards adults, the social applications of the theory are equally obvious. There must be large periods of relaxation from the high-

tension life of to-day. If they are not provided in the form of healthful and harmless sports, there will be irritability, abnormal fatigue, and anti-social outbreaks. There will be auction-bridge crazes and dancing crazes and moving-picture crazes, and there will be ever-increasing resort to the temporary harmonizing effect of alcohol, tobacco, and coffee.

Even in the life of the family the harmonizing influence of games is seen. The friction sometimes exhibited among its members, in some cases taking the extreme form of nagging, wrangling, and quarreling, is no doubt due in large part to the fatigue of the higher brain. In such cases it will often be found that participation in some simple game, particularly an outdoor game, such as golf, tennis, or even quoits, will completely relieve the situation, bringing sympathy, harmony, and peace. In society, the larger family, the same effect must follow upon the larger participation in healthful sports. It is sometimes a matter of surprise to us in periods of national prosperity, when wages are good and work obtainable, that unrest increases, together with crime and insanity. It may be because the high tension with its consequent fatigue

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is not relieved. What is needed is less work and worry and more healthful relaxation. Worry is a good example of the high-tension life that is a part of our civilization. Worry is only a perverted form of prevision. It is well enough for preachers to tell us not to worry, but worry is one of the conditions upon which civilization depends, namely, solicitude and care for the future. As a nation we are just beginning to worry, for instance, about the depletion of our forests and soil, and it is well that we are doing so. But sometimes we become excessively solicitous about the future, whether it be about the rent or the winter's supply of coal or our future health or the health and morality of our children, and this is what is usually spoken of as worry. It is very wearing, for the reason that it brings constant strain upon delicate and recently developed brain tracts and makes relaxation imperative.

If we have correctly described the theory of play and the psychology of relaxation and their relations to the conditions of our modern life, it will be evident at once that the need will not be supplied merely by providing more playgrounds for children and more holidays

and sports for grown-ups, vital as these are. The difficulty goes deeper and calls for emphasis of still other forms of relaxation than play and sport. There are many of these, such, for instance, as music, which is one of the best, and rhythmic dancing, when freed from objectional features. An ever-ready and convenient form of relaxation is the modern novel, in which the attention is sustained objectively as in the chase or the drama, but its value as relaxation is greatly less than that of the old and social story-telling. Society in all its forms is a healthful means of relaxation. All valuable games and sports are social and the mere mingling with our fellows lowers the mental stress and tension. Primitive man was wholly social and survived only in coöperative groups. The reversionary character of crowd behavior has been made well known to us.

Religion may be mentioned finally as a mode of relaxation of the highest value. Religion is a letting go the stress and tension of the individual and resigning one's self to an outside power, whether that power be God or the Church. The function of religion in this aspect is that of a sustainer, and religion loses much of its usefulness if the individual, as is

often the case, feels it his duty to sustain his religion. His religion must sustain him. Clubs, societies, fraternities of all kinds, exercise a similar function. The great charm of all fraternal societies is that they relieve the stress, the burden, the tension of the individual and shift the responsibility upon the society as a whole. The society is back of him, to some extent will do his thinking for him, decide moral questions for him, relieve him from fear.

Just as man has physically lifted himself from the earth, overcoming gravity, so mentally he has raised himself above the other animals by the fatiguing exertion of his higher mental powers. The first animals were marine animals. They floated in or upon the water without effort. Then came creeping land animals prone upon the ground but not so completely supported as in the water. Gradually the animal lifted himself upon four legs and at last, by infinite labor, erect upon two, and the tension is correspondingly great. The horse rests very comfortably upon his four legs if allowed to stand, and needs to lie down scarcely an hour in the twenty-four. Man sustains himself with constant effort in an erect

position and must sit much of the time on a chair, and at night reverts to the original position of the worm, flat upon the bed. This illustrates the whole theory of relaxation. It is always some form of reversion to primitive attitudes, physical or mental, and it brings rest and peace and harmony.

The rhythm of moral and social progress probably follows the same law. Periods of rapid progress are followed by periods of rest and relaxation. From time to time we are shocked by waves of vice and epidemics of immorality. We hear suddenly of conditions of astonishing laxity of morals in the small towns of our Western States, which are supposed to be models of propriety, and we say that the world is going to the bad. But our judgment is too hasty. These things are really incidental to progress. What we witness is a kind of moral relaxation, a relapse to more primitive conditions, as a result probably of progress that is too rapid, of tension too great. Something like moral fatigue takes place and a reaction follows.

Just at present we are hearing it said that our country has gone "amusement-mad." Well, our manner of life has been very stren-

uous. The tension has been high. Something was bound to happen. Other forms of relaxation have failed us just when we needed them most — particularly art and religion. We are told that the art of ancient Greece was the product of the Greek genius. Perhaps it was the cause of it. Both art and religion entered intimately into the daily life of the Greeks. They have departed from ours.

In fact the world has lately been getting too severely serious and laborious. Too much hard thinking is demanded to keep up the modern pace. Whether in journalism, in literature, in scientific research, in mechanical invention, in social and educational reform, in labor movements, or in the feverish struggle for wealth, the higher brain is taxed to a degree incommensurate with the possibility of physiological adjustment. Our physical constitution cannot so quickly adapt itself to this suddenly increased demand upon certain specific nervous functions comparatively new and unstable. Reactions of one kind or another are therefore inevitable. In America we have the amusement crazes, obsessions of dancing, motoring, baseball, football, moving pictures, etc., together with a healthy revival of ath-

letic sports, playground and recreation movements, and interest in outdoor life. In Europe, where the temper of the people lends itself less readily to these forms of release, we have witnessed the reaction in its most repulsive form, in a debauch of bloodshed, and a return to the most brutal and the most elemental kind of behavior, that of war, which rests the higher brain completely. It is really a physiological situation that the peace societies have to contend with. Mankind cannot so easily escape from its long past.

In conclusion, it should be said that it is doubtful whether the tendency shown in children's play and in adult sport to take the forms of old racial activities can be subsumed under such names as survival, reversion, or recapitulation. These biological terms are all too narrow, and they carry a certain reproach which does not pertain to the play and sport activities. It is a wholly unwarranted assumption that those peculiar forms of mental activity which in a special manner characterize the adult masculine mind are of any higher order than those which are exhibited in play in the broader sense in which we have used the term. The latter represent more fundamental

forms of human behavior and perhaps more valuable. Just at the present time evolution seems to be tending toward the development of those high-tension masculine traits by which man adapts himself to his environment and which produce something which we call progress or civilization, a civilization, however, in no way remarkable except in the way of its frenzied reactions. It is the age of work, the age of stress and effort and tension, the expansive, centrifugal age, the age of outer conquest but not of inner harmony. At such a time, comforts, luxuries, and inventions abound, side by side with profound misery. Is it not possible to think of a higher civilization than ours — a civilization faintly realized by the ancient Greeks — where the play motive will be ascendant, where a greater degree of repose, of measure, and of harmony will be attained, and where humanism will be more prized than expansionism?

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CHAPTER III
THE PSYCHOLOGY OF LAUGHTER

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UNLIKE the other forms of relaxation which we are considering in these studies, laughter in its psychological aspects has been a favorite theme with writers from Aristotle and Hobbes to Bergson and Sully. Many of these investigators have limited their study to the search for some common quality in the ludicrous and the comic, or in wit and humor. So we hear of various categories under which the causes of laughter are subsumed, such as "degradation," "incongruity," "descending incongruity," "nullified expectation," etc.

Recently this method of studying laughter has given place to more modern methods, which are at once psychological, physiological, and genetic, and are designed to show not merely the occasions upon which laughter arises and the laughable quality in the objects themselves, but also the reason why laughter rather than any other form of behavior should appear on these occasions. The psychologist

of the present day attempts to show what laughter itself really is. In other words, he wishes to know why funny things are funny, and why, if anything is funny, we laugh upon seeing or hearing it, rather than weep or swear. In fact, to the psychologist, it explains nothing to say that we laugh at incongruity or degradation or nullified expectation. For aught he can see, these things should cause us to weep.

The real problem, indeed, seems first to have been appreciated by Darwin, who made a study of the mechanism of emotional expression in general, and by Spencer, who studied the physiology of laughter in particular.

Recently great light has been thrown upon the meaning and origin of laughter by Sully, Bergson, Sylvia H. Bliss, Hall and Allin, Crile, Boris Sidis, and Freud.¹ At the present stage of the study it is impossible to do much more than to summarize the conclusions reached by these investigators. We shall, however, try to correlate laughter more closely with the other forms of relaxation which we are studying, and shall put more emphasis upon the

¹ At the end of this chapter will be found a bibliography of writings on this subject.

phylogenetic factors in explaining it, and make a greater distinction between the laughter of children and that of grown-ups, following thus the plan that we followed in the study of play.

Sully's theory that laughter is due to sudden release from a strained and tense situation, Miss Bliss's theory that it is due to subconscious satisfaction, Freud's theory of economy of psychic expenditure and relief from inhibitory and repressive processes, and Crile's theory of physiological clarification are found, as worked out by these writers, to have so much in common and to apply to so many occasions of laughter, that together they make a rich contribution to the psychology of this subject.

Laughter is of many kinds and arises on many and various occasions, and it has always proved dangerous to try to generalize these completely and refer them to any one principle. Without attempting any such complete generalization, we may approach the study from the standpoint of the laws of relaxation which we have discovered in our study of play.

Laughter is, at any rate, highly relaxing. All tense and difficult social situations are

greatly relieved by a good contagious laugh, as, for instance, those difficult and uncertain moments when a speaker faces a strange audience. In general, laughter is associated with our periods of relaxation, with our hours or moments of release from the burdens of daily life. It serves as a rest and a corrective. It is a relief from strain and tension. It is universally associated with play, and is the accompaniment of the relaxation of sports and pastimes, of feasting, drinking, and banqueting. The normal life of the child is a life of relaxation, and laughter is its constant companion. It might almost be said that those moments when the child is not laughing or smiling are moments when the even flow of his child life is interrupted either by the sudden intrusion of pain or some slight sorrow, or else, more commonly, by the premonition of those mental attitudes which are to make the child a man, namely, perhaps, the attempt to fix and concentrate the attention upon some necessary inhibition of impulse, or some readjustment of behavior, or the acquisition of some new motor powers. The latter may be illustrated by the child's first fateful steps across an open space. There is tension and

anxiety and uncertainty. The attention is strained, the muscles taut, and the face set. The great event accomplished, there is relaxation and laughter. The muscles of the face relax and the explosive release of the muscles of the chest and diaphragm take the place of the bated breath. The child is again a child, and the child who is really a child laughs.

Consequently, our task is not primarily to explain the laughter of the child, which is hardly more necessary than to explain the child himself, but that of man. Just as we may say that laughter in childhood is the accompaniment of the absence of inner tension, so in the case of the adult, we may say that it is the accompaniment of the relief of inner tension. In our study of play we found that adult play is a periodic return to primitive forms of human activity, serving as a rest from the strain and tension of modern life, and giving those peculiar mental powers involved in advancing culture and civilization a needed daily or periodic rest. Now, in the study of laughter, we shall find that it is a form of momentary escape from the tension and rigors of our social life.

Advancing culture is always associated with

the repression and restraint of primitive impulses. The very existence of society or the state involves the denial or repression of a great number of egoistic and natural impulses. "The progressive renouncement of constitutional impulses," says Freud, "the activity of which affords the ego primary pleasure, seems to be one of the basic principles of human culture."¹ The following words from Sylvia H. Bliss state these well-known laws so clearly and furnish such a solid foundation for the study we wish to make of the laws of laughter that we quote them in full:—

The animal is perfectly natural. It follows instinct, hiding and repressing nothing. It may growl, roar, fight, give chase, plunder, excrete, and, subject to certain limitations, feed and reproduce, when it wills. Indecency and shame are words without meaning. Rightness extorts no homage. If he loves, well and good, but if he hates, no social or ethical code torments him with its "ought." In scientific phraseology there is for the animal no inhibition of instinct. With this free and natural state, contrast man's condition. In the evolution of humanity those instincts which are inimical to the progress of civilization are theoretically transformed

¹ Quoted by Brill, *Psychoanalysis*, 238.

into qualities and acts less at variance with social and ethical laws, but in reality the substitution is far from perfect and entire. Man is not yet completely evolved; he is but partly adjusted to a civilized environment and a portion of his nature lags far behind at a primitive, savage level.

The human being, from childhood up must curb, repress, skulk, hide, control. From the mother's "No, no," to the thundering "Thou shalt not" from Mount Sinai, there is a constant denial of instinct. So accustomed are we to regard this as pure benefit, that we are blind to the accompanying disservice.

Consider man's inner life — a nest of hopes, impulses, and desires, in themselves perfectly natural and to be expected at this stage of evolution, yet directly in opposition to the prevailing social, ethical, and religious codes. Nature confined is not entirely quiescent. With all the outlets, transformations, and substitutions which physical and mental activities afford, there remains still a large residue of repressed primal instinct which results in discordant and tense conditions in the subconscious life. The repressions of the primitive man of our study were obviously of the most elemental impulses and took place in obedience to nascent social demands of the tribe and through his own growing sense of shame.¹

¹ Sylvia H. Bliss, "The Origin of Laughter," *Amer. Jour. Psych.*, 238 (April, 1915).

It is strange that psychologists have not made more use of this important psychogenetic law, which lies at the very foundation of our social development, in explaining many hitherto unexplained facts in our mental and social life. The psychology of play, sport, laughter, dreams, profanity, and war are immediately illumined by this genetic study. The social development of mankind contains the secret. And this development is always in the direction of restraint and inhibition of primitive impulses which are thought to be detrimental to social order. The interests of the group demand self-denial, restraint, and repression. And this restraint and repression must be very largely self-directed, involving ever-increasing powers of attention and concentration, and resulting in rapid mental fatigue.

There is thus always a conscious or sub-conscious rebellion on the part of the individual against this restraint, repression, and fatigue, and always a tendency to escape from it at times, and when adequate means of escape are not provided, there will always be outbreaks and social disturbances and spasmodic reactions to restore the balance. Freud has shown us some of the evil results of the

repression of impulses in the individual in producing pathological nervous and psychic conditions. Something similar seems to take place on a larger scale in racial development. Too much repression of racial impulses is disastrous to society, as it is to the individual. Laughter is one of the means which nature has provided to preserve psychic equilibrium and prevent more serious outbreaks.

We have seen how this psychogenetic law throws light upon the psychology of play and sport. We shall see how the insistent craving for narcotic drugs receives from this standpoint a new interpretation. We shall see how war itself may be understood as the rebellion of society as a mass against the too insistent urge of progressive forces. We have now to see how the escape from these repressive forces, when it is sudden and harmless, results in a peculiar wave of joy and gladness whose physical manifestation is laughter.

Laughter is the very simplest form of reaction against the ever-present repressive forces of society. It is the spontaneous outburst of joy whenever the old and natural suddenly appears amidst the restrained and artificial. It represents a momentary escape from social

rigors back to primeval freedom. It is a form of release, release from the constant galling grip of social claims. It is the expression of the glee which we feel when we see the cogs of civilization slip a little. It is the "subconscious satisfaction" which we have in old racial memories revived by the perception of social *lapses* of all kinds.

Indeed these may be mere physical lapses. The very simplest possible illustration of this would be the glee we feel when we see the racially old and familiar recumbent position suddenly and accidentally assumed in situations which call for dignity and propriety, as when a man about to be introduced to a lady on the street slips and sits down at her feet. Mental chagrin or physical pain may prevent the person who falls from participating in the fun, but the bystanders laugh. The writer was told that he must go to see the Charley Chaplin moving pictures if he wanted to laugh. He went and laughed, but nine tenths of the ludicrous incidents were based on the simple falling and tumbling about of serious people in dignified situations. All that is needed is a stout lady in tight skirts keeling over backward from a seat in the park.

Slips from conventional positions are funny, but so also are slips from conventional language. As one writer notes, the word "damn" spoken on the stage is sure to provoke a laugh. Similar language from the pulpit would be still more improper, and would be pretty sure to evoke a laugh, unless the emotion were overpowered by some stronger emotion, such as pain. In many companies the insertion of a swear-word in any funny story insures the laugh which is to follow.

Slips and lapses! Around these words the psychology of laughter largely centers. We laugh at people slipping on the ground, on the ice, or on polished floors, rejoicing, as it were, to see some elemental force, as of gravity, victorious in the case of others over the force which, half against our wills, forever urges us to stand upright. In like manner we laugh at slips in language, slips in decorum, and even slips in morals, if the latter are not so serious as to excite other emotions. The Mrs. Malaprop sayings would be an example of the first, and a boy stealing watermelons of the last.

Heraclitus, when he said that it is a joy for souls to become wet, had in mind, no doubt, this deep instinctive delight in escaping from

time to time from the fetters of social demands. The occasion of laughter is thus any elemental situation suddenly thrust into the course of modern routine. A sudden roar of laughter in a group of rough men would probably reveal as its occasion some reference to a more or less mild form of indecency, based on some simple and natural elemental relation, act, or attitude. In a group of giggling girls the mere mention of a kiss will elicit peals of laughter.

Custom and civilization forever urge upon us the conventional, the decorous, the orderly, the customary, the usual, the regular, the coherent, the congruous, the proper, the refined, and the logical. What we laugh at is the unconventional, the indecorous, the disorderly, the unaccustomed, the unusual, the irregular, the incoherent, the incongruous, the improper, the unrefined, the illogical, the nonsensical, and the eccentric. We laugh at a person in partial dishabille in a public place; a man in the street chasing his hat or missing a car and obliged to walk; a well-dressed person falling in the mud or caught in the rain; an intoxicated man; a man sleeping in church, especially if a deacon or a member of the choir; a precise person making slips in language. We

laugh at negroes, if unaccustomed to see them, especially if they have protruding lips and flat, aboriginal noses. We laugh, unless our laughter is forbidden, at all kinds of monstrosities or deviations from a narrowly prescribed mode or conventional type. The grotesque in physiognomy, dress, or language is usually the primitive or old.

Sully mentions the case of a traveler who visited the house of an Indian chief in Canada and inadvertently sat down on one of his wives, who was concealed in a bundle of buffalo robes. The chief and his wife shrieked with laughter. This act involved even more elemental relations than they were accustomed to. The older writers were wont to refer such cases to a principle which they called incongruity, but they did not explain why the incongruous is the cause of merriment. We are now in a position to understand what incongruity itself means. It is one of the forms of release from tension, and the occasion of the release is the intrusion into our modern life of primitive natural situations.

A clergyman was at one time making a pastoral call upon a young lady of his congregation. The conversation turned upon the sub-

ject of blueberries. "Yes," said the young lady, "I like them very much, but I never can keep them down!" This was a surprising remark, but mere surprise is not a cause of laughter, as our daily experience teaches. It was rather the introduction into a polite and proper conversation of a primitive and natural situation, the mention of which convention usually discourages. In every mind there is a kind of latent sympathy with this relatively harmless lawlessness.

Another trifling instance will bring the principle into clear relief. At an evening social gathering a pretty lady offers a basket of candy kisses to a man, saying, "Won't you have a kiss?" If the company is young and in vital spirits, the remark will probably be greeted with peals of merry laughter. In the mind of each person there is a half-latent rebellion against the tyranny of custom which forbids acts that are distinctively human and natural, and there is a kind of momentary glee at even the suggestion of escape from this tyranny. At the moment, social bonds are a little relaxed, and there is a corresponding sense of ease and relief, without, however, any serious consequences which might give rise to

other and conflicting emotions. Many of the laughable situations in comedy depend upon the outwitting of a too exacting parent or guardian by a fun-loving son, daughter, or ward. Most comedy can be analyzed into dignity laid low, convention violated, and innovations ridiculed, as the reader of Aristophanes, Plautus, or Molière will readily recall.

The following story (the older stories are best adapted to our purpose) presents somewhat more complicated conditions. In a railway accident the passengers were thrown in a promiscuous heap over an embankment and rolled or slid down a steep incline. In the descent a man was crushed by a stout woman, whom he found, at the bottom of the descent, sitting in his lap. "Madam," he said, "this is as far as I go." In this story the mind is under a certain strain and uncertainty, owing to the new and threatening situation, and the mental relaxation comes in the sudden introduction of an old and perfectly familiar relation, namely, that of a cart and its burden. It is a question, of course, in this story just how much of the humor is due to a mere relief from mental strain, the sudden turning of tragedy into comedy. Such an explanation,

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however, begs the question. The mere statement that the travelers arrived unhurt at the bottom of the slide would remove the tragedy, but it would not be funny. The "comedy" would still remain unexplained.

Thus it appears that laughter represents the sudden or momentary escape from the constant upward urge of progressive forces. It is release from the decorous, the proper, the refined, the fitting, the elegant, the strict, the starched, the stiff, and the solemn. The mind runs riot for a moment in the old, the familiar, the instinctive, the impulsive, and the easy, knowing that the inevitable claims of progress must soon force it into servitude again. Laughter thus represents a momentary and spasmodic rebellion against civilization, just as play and sport represent more deliberate periodic efforts to escape from it by resting awhile before resuming the burden; just as war represents, as we shall later understand, a large and general social revolt resembling a complete debauch.

In polite and elegant conversation the mere mention of commonplace things, that is, things racially very familiar, will cause a smile or laugh, the propensity to laugh being in direct

proportion to the stiffness of the situation and the commonness of the intruding idea. Thus a cow or a pig or a mule on the stage will be the occasion of merriment, or even the mere mention of them in conversation, if the latter be sufficiently conventional. The mention of a horse or dog will probably not have the same comic effect, for the reason that they are still at the present time honorable associates of man. So a countryman on the stage, or especially a countryman milking a cow, or anything whatever common or vulgar that is racially old and familiar, in surroundings more modern and refined, elicits laughter, and furnishes a never-failing fund for comedy. The unexpected primitive "conveniences," which are observed at the street-corners of some European cities, particularly in southern Italy, never fail to evoke a broad smile from American tourists.

It has been customary to say that such things are funny because they are things out of place, but things out of place are not necessarily funny, as numerous illustrations might show. The cause of the fun is to be found in the relief which is obtained in the vision of the elemental in a social state always involving

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a certain unpleasant tension. Thus any kind of stupidity or simplicity in a social environment corresponding to a more advanced stage of culture is apt to be a source of jollity. The court fool is a case in point, and the buffoon. We laugh for the same reason at the woman who deplored the increasingly poor work of the tailors nowadays, saying to her husband, "This is the fifth time I have had to sew this button on again for you." The greater part of Mark Twain's irresistible humor, as shown, for instance, in his "Innocents Abroad," comes under this head, or in his *bon mot* about the report of his death being greatly exaggerated, or his taking passage on a glacier, which he said he had heard flowed down to the valley. This is primitive simplicity.

An old farmer, annoyed at the golf balls coming over on his land, went up on the links to remonstrate with the players. They asked him to play a few holes himself to see how difficult it was to keep the balls in bounds. They showed him how to hold his club, how to place the ball, and how to strike it. Finally he made a great swing and the ball, as it happened, flew off in the direction of the green. Running down, they found the ball lying close

by the hole. "By heck," said the farmer, greatly crestfallen, "I missed it." The merriment which this story elicits is partly due to the exhibition of primitive simplicity, but it is due, no doubt, in part to the feeling of superiority which the hearer feels, who himself knows about the game, and knows that it could not be expected to make the hole in one stroke. The story, therefore, involves in part the elements of exultation and derision which we shall consider presently

Closely related to these forms of humor, and coming under the same principle, are all the countless jokes which turn on some form of absent-mindedness. The great Newton, for instance, making a hole in the fence for his hogs to go through and just beside it a smaller one so that the little pigs could go through, or boiling his watch in the water, while regarding the egg in his hand, is the stock illustration. Increasing power of concentration of attention is the very condition of advancing culture. We laugh at absent-mindedness because of a kind of subconscious sympathy with any lapses from this rigor of attention.

Thus we see that it is usually some form of the primitive or elemental in the midst of the

highly developed or complex, whether it be elemental intelligence, elemental language, or elemental objects and situations, which furnishes the occasion for laughter. We shall find the same element involved in all those many jokes and humorous stories which depend for their element of humor upon reckless exaggeration upon the part of the narrator. The Baron Munchausen stories will serve as a type of humor of this class. The actual sight of such wonders as he mentions would not cause any one to laugh. They would be merely mysteries to be solved. The humor of the stories is found in the temporary escape from seriousness in our human relations. It is a relief from the ever-present feeling of constraint that society imposes upon us to be truthful and exact in our statements. We sympathize somewhat with one who boldly breaks away from this restraint. The annual crop of fish stories furnishes us a few good laughs every summer. The Irish "bull," again, is a type of wit depending upon a momentary escape from the logical coherency which advancing culture demands.

Laughter is thus the expression of an ever-present half-latent protest against the for-

ward "pull" of evolution. It is a momentary reversion to original or aboriginal habits, and its occasions are to be found in all sorts of departures from the propriety, dignity, formality, and logical coherency of our modern life. We can, therefore, understand why it is that, in situations where tension is greatly increased, laughter is more ready and its effect more relaxing. In the college class-room or lecture-room almost any kind of joke is refreshing and will pass. The bodily confinement and constraint make the tension high. A good laugh furnishes much relief. In the case of children an overpowering impulse to laugh sometimes appears without any apparent cause whatever in surroundings that are solemn or even tragic, as, for instance, the impulse to laugh during grace at meals, or at funerals.¹

Laughter is therefore a means of rest and relaxation and is closely related to play, and like play finds the secret of its refreshing power in the release which it offers from the tension of our daily life of work and effort. When weary with reflection, deliberation, self-control, and self-repression, we may go to the

¹ Compare Sylvia H. Bliss, *op. cit.*, p. 245.

golf links or ball park and find relief in sport; or to the comic opera or moving pictures and find our relief in laughter; or we may merely turn to the column of funny stories in our magazines.

Wit depends largely upon the same principle of relief from mental tension, furnished, in this case, by the sudden emergence of the simple and elemental into the complex and involved, or again of the natural into the artificial, or the sudden substitution of the literal for the figurative. The following may be taken as a type of thousands of witty stories: *The Waitress* — "And how did you find the apple pie, sir?" *The Diner* — "I moved the bit of cheese aside and there it was." Here, the literal is substituted for the figurative, although the humor is probably partly due to the additional element of derision.

In cartoons free use is made of the principle we are now considering. Mr. Bryan in resigning from the Cabinet asked the American people to sit in judgment upon his decision. So a Chicago daily represents a giant Uncle Sam *sitting* upon a diminutive Bryan. Thus, in nearly all cartoons, situations in our highly complex and involved political and social life

are graphically translated into simple and racially familiar scenes. Constant use is made of the poultry-yard, the farm-yard, the stable, the fish-pond, the swimming-hole, the woodshed, the kitchen, the breakfast-table, the sick-room, and every kind of domestic or rural scene. Animals, such as the mule, the cow, the cat, the hen and chicks, the ducks and geese, all racially familiar, but now disappearing from our city life, greet us again in the daily cartoons and bring us corresponding joy. So also appear the familiar apple and pear trees, the vegetable garden, the old pump, the grindstone, the birch rod and the slipper, the doctor and his bottle of medicine, the cradle and the grave.

We commonly say that in cartoons persons in high estate are shown in ludicrous situations, but of course the word "ludicrous" simply means laughable, and it is only when we attempt to determine by analysis what situations are ludicrous, and why they are so, that we come upon the fundamental principle in the psychology of laughter as it has come to light in this chapter. The "sudden glory" which we experience is very largely the glory of fond memories, individual or racial.

Our first result is, therefore, that laughter is a form of relaxation and comes under the laws of relaxation that are exhibited in the psychology of play. But this does not offer a complete psychology of the subject. It will at once occur to the reader that the principles which we have been studying will not explain — at any rate at first sight — all of the occasions of laughter, nor apply to all its many forms. What shall we say of children's laughter, of the laughter from tickling, of imitative or contagious laughter, of nervous and hysterical laughter, of derisive and sardonic laughter? Does the principle of relaxation apply to these or any of them?

To answer these questions a still more careful study from the phylogenetic standpoint must be made. The result of this further inquiry will show that the principle of relaxation must be supplemented by the principle of exultation. Let us see if this new element will not throw much light on all the other forms of laughter.

We must recall that laughter is the accompaniment of relief from some kind of tension, the most common form of tension arising from the constant necessity of conforming to

social restrictions. It has thus become very largely a social phenomenon, but it was not necessarily so in the beginning. Physiologically, laughter in its earliest form was no doubt mere muscular relaxation after periods of mental and muscular strain. Darwin in his work on the "Expression of the Emotions" has offered an explanation of the probable origin and significance of the smile and the laugh physiologically considered. The following statement of Professor Angell better represents the present-day view and to some extent supplements and corrects the earlier theory:—

The laugh is the motor activity which inevitably accompanies the explosive release from sustained tension, with its suspended breathing. In an account of the attentive processes in consciousness, we remarked the holding of the breath, as one among other adaptive motor arrangements, all of which involve muscular tension. In joy, in the appreciation of humor, in surprise after expectation, we meet precisely this suspension of breathing cut short. The innervation of the vocal, facial, and breathing muscles which this involves is the laugh.¹

Under what circumstances, now, in the early history of human development did such

¹ J. R. Angell, *Psychology*, p. 333.

relief from tension take place? Evidently after that concentration of mental and bodily forces and fixity of attention which was the condition of survival and progress with primitive man. Bated breath and tenseness of the facial muscles were the accompaniments of that fixed attention and those strained attitudes with which primitive man watched for his prey or his enemy and struggled with them. When the victor stood over the slain victim, then came that sudden relaxation of the respiratory organs and the facial muscles which we know as laughter. What we should call joy over the conquest of an enemy after mortal combat, or joy in the presence of the prospective feast after the strain and effort of the chase, had for its physical side those motor reactions known as the laugh. "Perhaps the first great laugh," says Sully, "was produced by man or his proximate progenitor, when relief came after fear of the strain of battle."¹ Thus exultation and relaxation were associated from the beginning. "Derisive laughter," says Lloyd Morgan, "may have had its origin in the exultation of the savage over his vanquished foe."²

¹ James Sully, *An Essay on Laughter*, p. 176.

² *Encyclopædia of Religion and Ethics*, art., "Laughter."

The unit of the laugh, says Dr. Paul Carus, is the monosyllable "*Ha!*" — a rapid expulsion of the breath expressing joy and triumph.

If the "*Ha!*" be repeated several times, it forms a volley of ejaculations by which the whole breast begins to shake; and such a phenomenon is a regular laughter, which is nothing but the abbreviation of a triumphal shout. Translated into common parlance it means: "Hurrah, I have got the best of you and you are worsted." ¹

Thus we may believe that primitive man laughed in his vital moods, in his moments of victory, in the outcome of his successful chase. Laughter becomes thus in a way the expression of vital moods. It stands for victory, triumph, joy, gladness. It is at once the expression of joy, the expression of triumph, and the expression of contempt for the fallen enemy.

Here, of course, it is not to be understood that laughter is the expression of emotion in the sense of the older psychology. The physical reaction arises directly from the situation, as we have shown. The emotion of joy, with

¹ Dr. Paul Carus, "On the Philosophy of Laughing," *Monist*, VIII, 261.

which we are not here in any way concerned, is only the consciousness of the entire process. It is proper to speak of the laugh as an expression of the emotion of joy only in the sense that it may be an index to another mind of the emotion which the person is experiencing.

Thus laughter is a kind of language — perhaps the earliest of all forms of language. It means, I am alive, I breathe deeply, I have overcome, I am glad, I am happy; and in the complicated and interwoven life of the present day it is a return to this elemental language in sympathetic response to any elemental situation. In social evolution, furthermore, it may also become a language in the social sense, particularly in its vocal form, and by communicating the mood of gladness become of survival value in the social group.

From this point of view we are better able to understand the laughter of children. Children do not laugh because they are glad; they laugh because they are children, just as we have seen that they play because they are children. The laughter of children is not the response to a situation, nor is it the expression of a gladsome mood. It is simply life itself in its

physical manifestation. If one would wish to know why life exhibits itself in those particular muscular movements, it is because the child repeats the habits of the race.

Children, we may say, are the heirs of the exultant moments of primitive man. They reflect his vital moods, his success, his triumph, his glory, his life. To say, as Spencer does, that laughter is to be explained as the overflow of surplus energy following the channels of least resistance is surely at the best a case of misplaced emphasis. It is rather life manifesting itself as it has always done in the absence of those attitudes of strain and effort which condition forward progress. Laughter was for primitive man the expression of triumph; the life of the healthy child is a series of childish triumphs. "Children and Life are one. They are the product, the producers, and the preservers of Life. They exalt Life. They interpret Life. Without them Life has no meaning."¹

But the child does not always laugh. It is rather only the exulting child. Every oncoming wave of vitality manifests itself in this way, interrupted by periods of childish stress,

¹ Harold Bell Wright, in *Their Yesterdays*.

such as pain, sorrow, or disappointment, and more often by momentary attitudes of attention, anticipating the powers of the man. Even that slight sensory attention which we call listening, touching, tasting, looking, anticipates the strenuous life which destroys gayety. Still more do the childish attempts at muscular readjustments or inhibitions serve as premonitions of serious life and check the laughing mood. The tenseness passed or victory gained, joyous merriment follows. In older children, after periods of enforced restraint, such as confinement in the school-room, boisterous laughter breaks forth. Freedom from all fear and restraint is in general conducive to it among children. It prevails, therefore, in all kinds of play, particularly in romping and chasing one another, which is accompanied in young children by peals of laughter and glee unbounded. It means this to children — that danger and restraint which so often threaten their childish well-being are absent.

In this way the puzzle about the laughter from tickling is perhaps solved, as Sully has pointed out. Tickling is an "attack" which the child recognizes as playful. A slight fear

upon the first attack is followed by a sudden perception that the attack is playful, and the laughing reaction follows.

The laughter of children thus becomes somewhat clear viewed in the light of the life of early man. From this point of view we see that the laughter of children and that of modern man are essentially different. With the latter, laughter and play represent a return to nature; with the former they are nature itself. But this differentiation should not be made too marked. There is, of course, no line of distinct cleavage between childhood and manhood — and children laugh at funny things just as grown-ups do, partly from imitation, no doubt, but partly because the conditions of laughter which we have described in modern life begin early to display themselves in the life of children. When we say that laughter in the child is not the response to a situation, the statement should not be taken too strictly nor applied to children of all ages. It points to the great truth that laughter is inseparable from healthy childish life.

We are now at last in position to inquire whether those other very common forms which

we call the laughter of ridicule and derision may be explained from our point of view. The following story is quite apt to evoke a laugh, but apparently is not explained by any of the principles considered in the early part of this chapter. A man was run over by an automobile in the street and severely injured. Sympathetic bystanders picked him up, carried him to the sidewalk, stood him on his feet, and asked him, "Are you married?" "No," said the man, "*this* is the worst calamity that has ever befallen me." It might be said that the mental tension of the hearer caused by the uncertainty of the outcome of the tragic circumstances is suddenly released by the unexpected answer of the injured man, which has the character of levity. But this explanation is hardly sufficient. The story belongs rather to that large class of perpetual jokes about women and marriage. Every comic paper or column of funny stories furnishes a daily batch of anecdotes turning on the foibles, weaknesses, or inferiority of woman or the disillusionment of marriage. We have here, therefore, an example of derisive laughter. Early man laughed over his fallen foe and thereafter at everything over which he triumphed.

In the early history of mankind social groups were at constant war with one another. The vanquished tribes were always objects of ridicule and derision. From time immemorial members of foreign countries or strangers coming to any community have been objects of ridicule. Even to this day we laugh at foreigners. We laugh at the peculiar appearance and the peculiar language of the Irish, Scotch, Dutch, and of the Chinese and Japanese, and they laugh at us. Each considers the other inferior. We laugh likewise at idiosyncrasies of language, and at dialect and provincialisms. Woman has come up through a long history of partial servitude and has almost universally been laughed at. Women likewise laugh at men when they in turn exhibit their peculiar masculine weaknesses. All the burglar-in-the-pantry stories are illustrations of this type of cheap wit; for instance: *Wife* — "Wake up, John! there are burglars in the pantry eating my mince pies." *John* — "Well, it does n't matter, does it, so long as they don't die in the house?" "For a great many years," says an English writer,¹ "nearly all our national humor

¹ J. L. Ford, "Concerning Humor," *The Bachelor of Arts*, January, 1896; quoted by Hall and Allin.

had for its foundation the mother-in-law, the goat, the stovepipe, inebriety, and the banana peel."

Derisive laughter has played an important part in social evolution. Recalling our law of laughter as relaxation, as the relief from social tension in the presence of *lapses* of every kind, we see how the one who makes the slip will become the object of ridicule. The slip may be the occasion of great amusement to the beholder, but the other is conscious of having failed in some social requirement or convention or decorum or logical coherency. He suffers, therefore, a certain humiliation, and in this way laughter becomes a social corrective having a decided survival value. The onlooker sympathizes, at least subconsciously, with the lapse, but society frowns at the infraction of its rules, and the laugh which follows serves as a kind of castigation.

Thus, laughter has a double aspect and serves a double purpose. On the one hand, it is a rest and relaxation from some form of tension, and on the other, it is a kind of exultation, and in more complex life a social corrective. In the highly complex life of the present, it may take the form of ridicule and may be

used merely as a weapon. Thus in cartoons and in comedy and satire, direct use is made of the principle of the ludicrous in the interests of the reformer or the partisan.

But the value of laughter as a social corrective is slight as compared with its value as a means of relaxation. The words "wit" and "humor" suggest this lighter and more restful aspect of the matter. Much has been written on the salutary character of the laugh, but it has usually been thought of as a corrective or medicine rather than an integral part of human nature. As our study into its real meaning and origin has shown, it is not to be considered as a medicine so much as a normal means of rest and release from the daily and hourly stress of progress. It has the same function, therefore, as play and sport in adult life. These things are the rest platforms, so to speak, in the stairs leading up to the high tower. Laughter is more than salutary; it is necessary. To change the figure — wit, humor, and laughter are shock-absorbers. They alone enable us to stand the pace and save our nerves from disaster.

Perhaps even this way of regarding laughter does not give us a true insight into the depth

of its significance. Hobbes's happy description of it as "sudden glory" has been so often quoted that its truth has been shown by its wide appeal. What is it in the comic and the humorous and the laughable that is "glorious"? It is evidently the glory of the past. Philosophy has been defined as homesickness, and there is something of this kind in art. Music may owe its power and its charm to the latent memories which it evokes. In sculpture and painting it may be that we have composite portraits of all past experience. In poetry we have displayed to us vivid pictures of our own inner experiences, to which there is such quick and sympathetic response that it almost seems as if the memories evoked must reach out beyond our individual lives deep into the racial history of the past. Bergson has some such thought when he says in his essay on "Laughter":—

Art, whether it be painting or sculpture, poetry or music, has no other object than to brush aside the utilitarian symbols, the conventional and socially accepted generalities, in short, everything that veils reality from us, in order to bring us face to face with reality itself. . . . What drama goes forth to discover and brings to light, is a deep-seated reality that is veiled from us

often in our own interests, by the necessities of life. . . . Man must live in society, and consequently submit to rules. And what interest advises, reason commends: duty calls, and we have to obey the summons. Under this dual influence has perforce been formed an outward layer of feelings and ideas which make for permanence, aim at becoming common to all men, and cover, when they are not strong enough to extinguish it, the inner fire of individual passions. The slow progress of mankind in the direction of an increasingly peaceful social life has gradually consolidated this layer, just as the life of our planet itself has been one long effort to cover over with a cool and solid crust the fiery mass of seething metals. But volcanic eruptions occur. And if the earth were a living being, as mythology has feigned, most likely when in repose it would take delight in dreaming of these sudden explosions whereby it suddenly resumes possession of its innermost nature. Such is just the kind of pleasure that is provided for us by drama. Beneath the quiet humdrum life that reason and society have fashioned for us, it stirs something within us which luckily does not explode, but which it makes us feel in its inner tension. It offers nature her revenge upon society. Sometimes it makes straight for the goal, summoning up to the surface, from the depths below, passions that produce a general upheaval. Sometimes it follows a flank movement, as is often the case in contemporary drama; with a skill that is frequently

sophistical it shows up the inconsistencies of society; it exaggerates the shams and shibboleths of the social law, and so indirectly, by merely dissolving or corroding the outer crust, it again brings us back to the inner core. But, in both cases, whether it weakens society or strengthens nature, it has the same end in view; that of laying bare a secret portion of ourselves, what might be called the tragic element in our character. This is indeed the impression we get after seeing a stirring drama. What has just interested us is not so much what we have been told about others as the glimpse we have caught of ourselves — a whole host of ghostly feelings, emotions and events that would fain have come into real existence, but fortunately for us, did not. *It also seems as if an appeal had been made within us to certain ancestral memories belonging to a far-away past — memories so deep-seated and so foreign to our present life that this latter, for a moment, seems something unreal and conventional, for which we shall have to serve a fresh apprenticeship.* So it is indeed a deeper reality that drama draws up from beneath our superficial and utilitarian attainments; and this art has the same end in view as all the others.¹

Bergson, to be sure, makes a sharp distinction between comedy and tragedy, in that the former deals with types and the latter with

¹ Bergson, *Laughter*, p. 157 ff. (Italics ours.)

individual experiences. But it is doubtful whether this distinction can be carried through. There is something common to comedy and tragedy, and this is perhaps that which belongs to all the arts and to play and to laughter and to all forms of relaxation, namely, the power to release us from the burden of the present, from the rigor of social conventions and utilitarian claims, and to enable us to revel for a little while in the world of dreams. All are forms of relaxation and all are of priceless worth. When the human race learns to do without sleep and rest, when it learns to work both day and night, only then may we dispense with laughter, with play, with art, and with religion.

This suggests the significant question: Are we as a nation forgetting how to laugh? Is it already becoming a lost art? It would appear, from the principles of relaxation which we have been studying, that as culture increases, as the tension becomes greater under the pressure of our modern institutions, laughter like other forms of relaxation would increase. This does not appear to be the case. There is, indeed, an increased demand for forms of relaxation, for amusement, dances, sports, and

outings, but there is not more laughter. Why is this, and is it praiseworthy or deplorable?

Answers to these questions can only be conjectural. It is true that as regards laughter much depends upon national temperament and habits of repression. Southern peoples, with what we call their sunny temperament, are more disposed to mirth. They are more like children. Northern peoples are more stern and reserved, and more accustomed to inhibit outward expression. If it be true, as is sometimes thought, that the northern nations are more progressive, it would appear at first sight that they would be more given to laughter as a means of relaxation. But this "progress" is of a wholly different kind. It is not due to increased sociability or to a highly complicated social life which demands ever-increased inhibition of natural impulses, but rather to increased physical and mental energy which finds its expression in an active life, in the conquest of nature. In new countries and in new civilizations the need of relaxation is not so great. The time is fast approaching, however, when in America and in northern Europe the question of relaxation will become an all-important one.

But in general it is probably true that laughter is becoming rarer among all peoples. The good, old-fashioned boisterous laugh is not now in good form, and that settles the matter. We are taught to inhibit once more the very means which nature has provided for tempering the inhibitions made necessary by our social life. Thus fashion causes the inner tension to increase and paves the way for spasmodic outbreaks of amusement crazes and various social reactions.

Many people turn with avidity to the comic papers or to the page of funny stories in the monthly magazines and read them through with great apparent interest and probable enjoyment, but often without a laugh or visible smile. There seems to be the demand for relaxation, but long habits of repression have discouraged the usual physical expression. What we still have is amusement, enjoyment, admiration, joy. What we miss is the old-fashioned mirth, fun, and hilarity. Of course, there is still laughter in our social life and in abundance, but not in the old measure nor in the old spontaneity.

A good deal of our social laughter, too, is formal, forced, to brighten social occasions and

“carry off” conversation. At our popular dances the faces of the dancers are rather set and serious. The faces of the spectators at our great ball games are also rather strained and serious, and even in our theaters, when comedy is on the stage, or at our humorous moving-picture shows, there is much tenseness and inhibition of expression.

We do not mean, to be sure, that these forms of relaxation are not valuable without laughter, but that perhaps they would be more valuable with it. There is some danger that the world may become too earnest and too dull. Perhaps we take too seriously our own shortcomings and those of other people. The situation will be a sad one when one half of the world is sinning and the other half weeping over the sins of the first half. Perhaps a little more healthful relaxation would discourage the sinning of the one and the sadness of the other.

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CHAPTER IV
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WILL genetic psychology throw as much light upon profanity as it has upon laughter? Does the *catharsis* effect, which has often been attributed to profanity, entitle us to consider it under the laws of mental relaxation? Is profanity, too, a kind of relief from tension? Is it an escape from social restrictions in the direction of an earlier and more primitive form of expression? Let us try in this chapter to give a brief answer to these two questions: Why do men swear? When they swear, why do they use the words they do?

We may distinguish two kinds of swearing, asseverative and ejaculatory. The former will include, first, legal swearing, and secondly, popular asseverations taking the form of legal oaths. Of these, legal swearing is not, of course, included in profanity. Nor should we include popular asseverations apart from legal proceedings, provided only they are used with sufficient solemnity, as when a person accused

of a serious offense calls the gods to witness his innocence. On the other hand, the light and flippant use of the name of a deity in asseverations, as in the *μὰ Δία* or *νῆ τὸν Δία* of the Greeks, or the *mehercle* or *edepol* of the Romans, or the name of God following the particle *by* (*bei*) in English or German, would be considered as profane swearing, although its moral quality will depend upon the accepted code of the age or country in which it is used.

The psychology of these asseverative phrases is comparatively simple and need detain us but a moment. Truth-telling is a modern virtue and represents a highly developed civilization. The mendacity of former days and of primitive peoples is well known. Under such circumstances, truth and honesty, whether real or pretended, protect and assert themselves by the strongest appeals to the most sacred objects. Hence, invocations to the deities, to the holy grave, to the saints, to the sword or javelin, to the head of the emperor, to the sun or the moon. Later these phrases, which at first are solemn protestations of honesty or truth, become merely conventional expressions having an adverbial

force and differing only in degree from words like "truly," "verily," or "indeed."

It is, however, with the second kind of swearing, the ejaculatory, that we are now chiefly concerned. From this point of view, we may then define profanity as the ejaculatory or exclamatory use of a word or phrase, usually the name of the deity or connected in some way with religion or other sacred things, having no logical connection with the subject in hand, and indicative of strong feeling, such as anger or disapproval. This definition we may accept with sufficient latitude to include the severer forms of profanity, such as cursing, vituperation, and blasphemy, and the milder and more common forms, such as the mere interjectional use of words and phrases that have lost their once sacred character.

Since any theory or explanation of profanity must, of course, rest upon the facts to be explained, a brief summary of the more obvious facts will be the best introduction to our study.

The words and phrases used in profane swearing we may roughly divide into seven classes.

1. Names of deities, angels, and devils;

such as "Indra," "Zeus," "Jupiter," "God," "Lord," "Christ," "Jesus," "the Devil," "Beelzebub," etc. In this class should be included the numerous corrupted or euphemistic forms of the above names, such as "gad," "egad," "gol," "gosh," "deuce" (*Deus*), "potz," "law" (Lord), etc.

2. Names connected with the sacred matters of religion, such as "*sakrament*," "*kreuz*," "the holy mass," "zounds" (God's wounds), etc.

3. Names of saints, holy persons, or biblical characters, such as "holy Mary," "holy Moses," "holy Peter," "Jehoshaphat," etc.

4. Names of sacred places, such as "Jerusalem," "the holy grave," "the land of Goshen," "for the land's sake," etc.

5. Words relating to the future life, such as "himmel," "heavens," "hell," "bless," "damn" (with its numerous corrupted or euphemistic forms, like "darn," "dern," "dang," "demn").

6. Vulgar words. Words and phrases unusual or forbidden by polite usage.

7. Expletives, including words or phrases having unusual force for various reasons, such as "mercy," "goodness," "gracious," "for

pity's sake," "confound it," "hang it," "*tause*," "*million*," etc. Many of these will be found to be fossil remains of religious terms or of ejaculatory prayers, such, for instance, as "mercy" and "gracious."¹

We shall return later to the question of the common quality possessed by these words adapting them to the use of profanity.

Continuing our inductive study, we should next notice the history of profanity. Here our knowledge is scanty and fragmentary.² The history of profanity, so far as it is written, is bound up with the history of religion, profane swearing having prevailed at those times and among those people where great sacredness has been attached to the names of the gods or to matters of religion. This rule does not, however, apply to ribaldry and vulgarity, which under many circumstances are included in profanity and constitute a very objectionable form, but rather to profanity in its ordinary

¹ For full lists of common swear-words and their supposed origins, see Small, "Methods of Manifesting the Instinct of Certainty," *Ped. Sem.*, v, 313.

² Julian Sharman, in his quaint book entitled *A Cursory History of Swearing* (London, 1884), throws interesting side-lights on the subject. We are indebted to him for some of the facts under this head.

sense, such as cursing, blasphemy, and execration. The psychological grounds for this relation between profanity and religion will be apparent as we proceed. Hence it was that among the Hebrews the vice was so common and so offensive that its prohibition found a prominent place in the Decalogue, while in the Levitical law it was punishable by death. For a like reason, among the less serious Greeks the vice was uncommon, being practically limited to a few asseverative phrases, and although the abuse of these was ridiculed at Athens and forbidden in Crete where Rhadamanthus made a law that the people should not swear by the gods, but by the dog and the goose and the plane tree, it was never taken very seriously. The Athenian boys, for instance, were allowed to swear by Hercules, but only in the open air. In Rome, custom allowed the men to swear by Hercules and the women by Castor.

In modern times it is again in serious and religious England and America that the vice has most prevailed. In England in the thirteenth and fourteenth centuries, after the monkish teaching had implanted a vivid consciousness of the suprasanctity of the body of

Christ and of every scene connected with his sufferings, there burst upon the country a wave of imprecation in which profane use was made of the body and members and wounds of Christ and of many things connected with his death.¹ Fossil remains of these oaths have come down to us in such expressions as "zounds," "'sdeath," "bodikins," "ods bodikins," etc. The significance of this historical circumstance will be seen when we discover that the psychological value of an oath depends upon the force of the "shock" which it is capable of giving.

After the Reformation swearing in England took on a different coloring. It was sonorous in sound and was assumed to be manly. It smacked of the field, the army, and the court. Elizabeth herself is said to have been proficient in the lordly art. Hotspur demands of Lady Percy, "Swear me, Kate, like a lady as thou art, a good mouth-filling oath." In the

¹ We should not, however, overlook the fact that owing to the deeply religious feeling of the times, this impious language would cause great offense and distress to the more refined minds, which would find expression in the literature of the day, and coming down to us give us an exaggerated picture of the English profanity of those centuries compared with that of other times and places.

army the favorite English oath was so very common that in France and Holland the name "Goddam" became a mere nickname for an Englishman. In the seventeenth century an attempt was made to suppress profanity by Parliamentary enactments, with every kind of penalty from a fine of twelpence an oath in England to punishment by death in Scotland. At different epochs in later English history there have been epidemics of profanity, as in the reigns of Charles II, Anne, and George II. Until recent times it has usually been considered manly or lordly to swear, giving the swearer a certain kind of distinction. This, indeed, is noticed now among boys and some classes of men. But in general in this century profanity has become unfashionable. The stamp of vulgarity and social disapproval have proved far more effective agencies in suppressing the vice than any legislation. But the habit still widely prevails throughout the world, especially among soldiers and sailors, in the laboring classes, among the uneducated and among criminals.

We may next notice some psychological facts about swearing. Under what circumstances do men swear, and what are the sub-

jective effects of the oath? In general, profanity is the accompaniment of anger or of emotions of the anger type. People swear when they are provoked, or annoyed, or surprised by a hurt or injury. They swear in personal encounters or altercations when actual bodily injury is not attempted, the most dangerous men not being the hardest swearers. They swear at horses as an incentive to greater exertion and at all domestic animals when irritated by them. Finally, they use oaths in any discourse where ejaculations, interjections, and superlatives are demanded or where the poverty of language makes it incommensurate to the occasion. In general, we may say that the occasion of profanity is a situation in which there is a high degree of emotion, usually of the aggressive type, accompanied by a certain feeling of helplessness. In cases of great fear, where action is impossible, as in impending shipwreck, men pray; in great anger, they swear.

As regards the subjective effects of profanity, they are characteristic and peculiar. The most striking effect is that of a pleasant feeling of relief from a painful stress. It seems to be the appropriate expression for certain

mental states and is accompanied by that satisfaction which attends all emotional expression. To take a simple illustration: Even men who do not swear can by a sort of inherited instinct appreciate the teleological relation existing between the behavior of a refractory collar-button during the hurried moments of dressing for some evening function and the half-smothered ejaculation of the monosyllable "damn." The word seems to have been made for the occasion. The feeling of annoyance in this case is slight and the instance trifling, but in more serious affairs, under the influence of great anger, the mental stress demands an outlet which the oath seems to afford in a striking manner.

Here is a forcible illustration of the instinctive desire to relieve the overburdened soul by the use of swear-words. A friend of the writer, a clergyman, has a boy of six years, a sturdy and combative child, but of good habits and careful training. One day, having suffered some serious childish trouble with his playmates, he came in and said, "Mamma, I feel just like saying 'God damn'; I would like to say, 'Jesus Christ,' but I think that would be wrong." This pacifying and, so to speak,

purifying effect of profanity is one of the phenomena which any theory of swearing must take into account. It is observed also in other forms of emotional expression, as for instance in the "good cry," whose purifying effect in relieving the tension of grief or anger is well known. H. Campbell, writing on the physiology of the emotions, says, "The shouting and gesticulation which accompany an outburst of passion act physiologically by relieving nerve tension; and, indeed, as Hughlings Jackson has suggested, swearing may not be without its physiological justification. Passionate outbursts are generally succeeded by periods of good behavior and, it may be, improved health."¹

Certain facts also in the field of abnormal psychology must be taken account of in any theory of profanity. Mental pathology confirms the evidence of philology that profanity is one of the oldest forms of spoken language. In progressive aphasia, profanity is often the last form of speech to be lost and aphasic patients who can swear oftentimes cannot repeat the profane words from hearing. The

¹ "The Physiology of the Emotions," *Nature*, vol. xvi, 306.

oaths slip out quite reflexly. Reformed swearers revert unconsciously to their profanity in moments of great excitement. In automatic writing, in trance utterances, in the language of instinctive criminals, and in subconscious and reversionary psychoses in general, profanity, usually of the milder sort, has a conspicuous place. These phenomena afford at least some ground for the belief that profanity is an ancient and deep-seated form of expression standing in close organic connection with gesture language.

Keeping in mind, then, the principal facts to be explained, let us proceed to consider the theory of profanity. Previous to the fruitful discussion which followed upon the James-Lange theory of emotion and in general acceptance of Darwin's theory of expression, the explanation of profanity, had it been attempted, would doubtless have proceeded along the following lines: Profanity is an expression of emotion, particularly of the emotion of anger. Anger, like other emotions, has as its physiological accompaniment an inner turmoil, an increased metabolism in the nervous centers, an increased excitement and stress, seeking an outlet in motor channels.

Profanity is one of the many forms of the outburst of this inner excitement. Why the surplus released nervous energy escapes through this particular channel is to be explained partly by the law of serviceable habit and partly by the constitution of the body. The natural and primitive form of expression of anger is combat, involving a supreme effort of the whole muscular system and high-pressure activity of the heart and lungs. The inhibition of these earlier forms of reaction makes other outlets necessary. The organs of speech serve well as such drainage channels. Animals in anger may fight, but if actual fighting is impracticable, they may snarl or growl or bellow or scream or roar. Men in anger may perhaps be obliged to repress every overt act and every expression of their emotion except facial movements or some form of vocalization. Profanity is therefore a safety-valve; it represents partial inhibition; if the man did not swear, he would do something worse. It may be likened to the engine blowing off steam. Why the vocalization takes the form of the profane oath may also be explained upon the same principle. Oaths are more forceful and give greater vent to the inner tur-

moil than less sacred words. In the same way we understand why the voice in profanity is usually loud and high. The subjective pacifying effect of the oath, the feeling of relief, is also readily explained from this point of view. It is an actual physiological relief of a central stress. It is a kind of purgation.

This explanation is open to criticism at nearly every point. As popularly understood, it regards the emotion as a kind of psychic force which is aroused by the perception of an object and seeks an outlet. If interpreted physiologically, it presupposes a central excitement or diffusive wave of energy which is itself unexplained. It involves, too, the doubtful theories of accidental discharge and drainage channels. It assumes finally that the emotion precedes the expression and is not mediated by it.

It is evident, then, that we can no longer say that profanity is an outburst of emotion and use the emotion of anger to explain it, nor can we affirm that the vocal organs are simply easy drainage channels for excessive nervous discharge. The vocal ejaculation must be more directly connected with its object, i.e., with the perception of whatever

evokes it. Profanity, therefore, can be explained only from the standpoint of phylogeny. It must be shown to be a useful form of reaction, at least in the beginning.

If we consider very simple forms of animal life, we may say that the activities of the individual are of three kinds, those connected with the procuring of food, with protection from enemies, and with reproduction. So long as these activities are normal, there would be no psychical accompaniment which could be called emotion. Again, all these activities involve a sensory mechanism and a gradually perfected coördination between the sensory and motor mechanism, and this we may call habit. The failure of this coördination, conscious or unconscious efforts at readjustment, may have for their psychical accompaniment something that we may call primitive emotion. It is more nearly related to pain than to pleasure.

Let us now confine our study to the second of the above-mentioned forms of activity, that connected with protection from enemies. These activities will take two forms, which we may call combat and escape, the latter including flight and concealment. Failure to

coördinate the usual sense impressions and muscular reactions leading to flight or concealment will be accompanied by the primitive emotion of fear. A like failure to coördinate the usual sensory and motor elements connected with combat will be accompanied by the emotion of anger. Let us again confine ourselves to the reactions connected with combat. These reactions will need constant readjustment to adapt them to changing environment connected with and leading to changes in bodily structure. Suppose an animal to be attacked by an enemy of superior strength under circumstances where escape would be impracticable. Any modification of the usual reactions of combat of such a character as to induce in the opponent reactions of flight will be of distinct advantage to the combatant, and therefore used and preserved. Darwin's illustrations will at once occur to us, such as the display of teeth, or reactions which are designed to increase the apparent size of the combatant, such as the erection of the hair or feathers, or the arching of the back. Under this head we may include all kinds of *noises* which an animal may make in order to "strike terror to the heart" of the opponent, such as

the growl, the snarl, the roar, the bellow, and the hiss, all of which are, like the curse or oath of anger in human beings, harmless in themselves, but useful as indirect means of defense, since they induce in the opponent the reactions of flight instead of combat. It is conceivable that the faculty of phonation arose originally in this way, as a modification of the organism useful in defense against a more powerful foe. In that case the earliest form of speech would be the ejaculation of anger. It is probable, however, that a more careful inquiry into the origin of phonation will lead us to a somewhat different conclusion.

Fortunately, our discussion does not involve us in the problem of the origin of language. The defenders of the several theories all agree in this — that vocalization of some sort preceded articulate language by vast periods of time. Take for instance the “bow-wow” or onomatopoeic theory. If a dog was named “bow-wow” by a hypothetical *homo alalus* because of his bark, it is assumed that the dog himself already possessed a faculty of vocal expression. One wonders, then, to what extent this faculty of vocalization had developed previous to the time when it became “speech.”

If the dog or other vertebrate could express his anger by a growl, we can hardly doubt that "speechless man" was very far from speechless, at least as regards his emotions, or that he possessed a considerable emotional vocabulary. The discussion about the origin of language has been very much a waste of words for the reason that it has been conducted usually from the standpoint of philology rather than from that of genetic psychology. In reality it has been a discussion about the origin of conceptual thought and has had to do with a relatively recent period in human development. If we go back of this period, we see at once that primitive man must have possessed an extensive and useful vocabulary.

It would be possible to make a trial list of the forms of vocalization which would be useful to a species of animals, assuming only that the sense of hearing was possessed by its own and other species. There would be, for instance, the cry of pain, the scream of fear, the laugh of exultation, the growl of anger, the song of love, and finally the articulate word as expression of thought. None of these are to be considered as mere expressions of emotion. They are merely useful activities, all of

them probably being forms of communication. The cry of pain, for instance, brings food and aid to the young. The song of love, including all forms of vocalization that are pleasing to the ear, is useful in alluring the desired mate. The scream of fear is a warning of danger, while the growl or snarl or roar of anger is useful in putting to flight an opponent. Now the human analogue of the growl or roar of anger is the profane oath; and carrying out the list of analogues we shall have, as the various forms of primitive vocalization, weeping, screaming, laughing, swearing, and singing. The accuracy or completeness of such a classification is unimportant for our purpose. It may be left to anthropologists. But it suggests the wide extent and primitive character of vocalization as contrasted with mere articulate speech. Furthermore, when we reflect that these various forms of vocalization are not mere expressions of feeling, but life-serving forms of communication, we see that they may properly be included in the term language, and the problem of the origin of language takes on a different form and a much simpler one. Moreover, much of the wealth of this primitive, so-called emotional, lan-

guage has come over into articulate language in the form of the most various modulation, intonation, and accent, so that the *meaning* of an articulate phrase or sentence may be ten-fold more than the mere conceptual equivalents of the words.

We now approach our last problem, and we find this easily solved from the standpoint which we have gained. What is the explanation of the peculiar words used in profanity? These we have seen to be in our era the names of deity, of holy things and places, religious terms of many kinds, and finally vulgar words. Recalling our classification of these terms, do they possess any quality in common which makes them serviceable as expressions of anger, i.e., as means of offense? Yes, they possess that which all weapons possess, the power of producing a shock in the one against whom they are directed, that is, they are all "shocking." According to the law of selection which we are applying, the vocal accompaniments of anger will always be those sounds or words which are most terrifying. Before the advent of conceptual language we may expect phonation which is merely loud or which suggests natural enemies or

destructive agencies, such as the roar of the storm, the crash of the lightning, or the growl of the thunder. When articulate language appears, we shall have the *names* of these destructive agencies, together with the vocal stress and intonation of the original expressions. Hence "thunder and lightning," "*donnerwetter*," "*Gottes donner und blitz*," or "*potz tausend*," or "*tausend donnerwetter*," where the oath is made as awful as possible by the appeal to mighty forces or mighty numbers. If there is anything upon which the imagination has been accustomed to dwell with peculiar dread, or fear, or awe, its serviceableness in producing a shock is still greater. Hence the particular effectiveness of oaths relating to gods or devils or to future punishment, such, for instance, as the English word "damn," or the expression "hell and damnation." Owing to physical disability, or to social or legal restraints, the angry man may not be able to inflict actual bodily harm upon his adversary, but he can with impunity and much satisfaction condemn him to eternal punishment, and in doing so make his voice as awful as his vocal capacity will permit, and fortify his curses by invoking the terrible name of God or making

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or shock the opponent. The words actually used in profanity are found to have this common quality. Although originally useful in combat, the occasion of profanity at the present time may be any analogous situation in which our well-being is threatened, as in helpless distress or disappointment. There is always, however, some object, though it may even be one's self, against which the oath is directed.

Profanity is a primitive and instinctive form of reaction to a situation which threatens in some way the well-being of the individual, standing next to that of actual combat. Like all instinctive reactions, it does not generate emotion but allays it. The emotion arises where the reaction is delayed or inhibited. We are thus able to account for the *catharsis* phenomena of profanity. It seems to serve as a vent for emotion and to relieve it. It really acts as a vent only in this sense that it brings to an end the intolerable period of inner conflict, of attempted inhibition, of repression and readjustment, and allows the habitual attitude to assert itself. The relief is only that of any completed activity. The "*Sakrament*" which the peasant uttered completes in a certain

sorry fashion the activity which should have been completed by his entering the carriage. The emotion, his disappointment and chagrin, are psychical states which accompany the attempts at readjustment or inhibition, and are to a certain extent allayed by the oath. As a means of restoring disturbed balance and of relieving inner tension, profanity thus has a *catharsis* effect similar to that of laughter and play and may thus appear as a form of relaxation. This effect is probably further increased by the elemental character of profanity itself. The individual revels in an outburst of primitive language giving him a certain sense of release and escape from the constant inhibitions which society demands.

This illustration may perhaps bring the whole principle of *catharsis* into clearer light. The Aristotelian theory of *catharsis*, as it has usually been interpreted, whether as applied to the drama in Aristotle's sense, or whether as applied to the forms of relaxation which we are studying, receives little sanction from psychology. Sport, play, laughter, and profanity have a *catharsis* effect, but it is not because they act either as a purge or as a vent, nor is it because they offer harmless exercise to emotions

which otherwise might be destructive. It is rather because they provide some form of substituted or completed activity, thus permitting the subsidence of the emotion, or else, as in other cases, it is because they serve as a means of rest and relaxation by substituting older and easier forms of behavior for the newer and more difficult ones, thus relieving stress and tension.

If we should interpret the whole process physiologically after the manner of Walter B. Cannon¹ and Dr. George W. Crile,² it still does not appear that profanity and laughter are to be considered as forms of *catharsis* according to the Aristotelian medical simile, although Dr. Crile would so understand them. That is, he would probably say, a man is confronted by a threatening situation, say an enemy. An emotion of anger arises, and at once the whole organism is thrown into a state of preparedness for battle, including visceral changes, secretions of the thyroid and adrenals, etc., making possible the great muscular activity which the prospective combat, phy-

¹ Walter B. Cannon, *Bodily Changes in Pain, Hunger, Fear, and Rage*.

² Dr. George W. Crile, *The Origin of the Emotions*.

logenetically determined, will require. But owing to social and moral restraints no combat can take place, and the energy is partly used in the profane oath, the loud voice, and other expressions of anger. It is drawn off, so to speak, into other motor channels, which thus serve as a kind of vent and so preclude injury to the organism.

But the point we wish to make is that the profane oath, the loud voice, the laughing, etc., have themselves been phylogenetically determined as useful forms of reaction. They are not, therefore, drainage channels, vents, or safety-valves, any more than was the original activity for which they are regarded as substitutes. In other words, they are in no sense physiological substitutes, but forms of reaction which social evolution itself has substituted for older and simpler ones.

If, finally, the oath is a form of instinctive reaction, and even a purifying agent, why is it considered to have an immoral quality? For two reasons: first, because advancing civilization bids us evermore inhibit and repress, and secondly, because of the unfortunate but inevitable connection between profanity and the sacred names of religion.

CHAPTER V
THE PSYCHOLOGY OF ALCOHOL

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ONE of the problems which has been definitely set for psychologists to solve during the twentieth century is the cause of the almost universal desire for alcohol. It is a curious fact that in the thousands and hundreds of thousands of books, articles, and writings of every description relating to the many phases of the alcohol problem, this simple and fundamental question—Why do men desire alcohol?—has until recently never been carefully considered at all, and even now has not been answered. The belief that the desire for alcohol is due to total depravity or original sin seems to be about as far as we have got in answering this question. One author wrote a serious article not long ago to show that the cause of drinking is to be attributed to bad cooking in the home! He evidently did not appreciate the fact that the desire for alcohol, as well as its use, is at least as old as the lake-dwellers of the Neolithic Age. Few if any savage tribes known

to anthropologists, whether in ancient or in modern times, except certain tribes of Eskimos, who have no fruit or grain from which alcohol can be prepared, have been without this drug or some other having similar properties. The discovery and use of alcohol have not spread from tribe to tribe, but have been autochthonic, arising independently in all parts of the world. So keen has been the desire for alcohol and so eager the quest for it, that always and everywhere some means has been discovered by which this water of life could be expressed from fruit or grain or vegetable.

And yet we do not even know why it is desired.

The whole vast machinery of the temperance movement, employing thousands of skilled and zealous workers, controlling large sums of money, and making use of wise educational, social, and legislative methods, seems to have accomplished little or nothing in reducing the consumption of alcohol. At the very time that legislative and social control of the manufacture, sale, and use of alcoholic liquors is extended over larger and larger portions of our country, the relentless figures of the Commissioner of Internal Revenue show that

year by year with almost fateful regularity the *per capita* consumption of these liquors has increased rather than decreased.

The following table shows the *per capita* consumption of all liquors in the United States from the year 1850 to the year 1914, inclusive:

PER CAPITA CONSUMPTION OF ALL WINES AND LIQUORS

Period	Gallons	Period	Gallons
1850.....	4.08	1901.....	17.65
1860.....	6.43	1902.....	19.14
1870.....	7.70	1903.....	19.57
1871-80.....	8.79	1904.....	19.87
1881-90.....	13.21	1905.....	19.85
1891.....	16.72	1906.....	21.55
1892.....	17.13	1907.....	22.79
1893.....	18.20	1908.....	22.22
1894.....	16.98	1909.....	21.06
1895.....	16.57	1910.....	21.86
1896.....	17.12	1911.....	22.79
1897.....	16.50	1912.....	21.98
1898.....	17.37	1913.....	22.68
1899.....	16.82	1914.....	22.49 ¹
1900.....	17.76		

¹ The nearly stationary *per capita* consumption for the past few years and the probable actual decrease for the year 1915, the statistics for which are not at this writing available, would not seem to indicate any lessened desire for alcohol. The fact that the enormous extension of dry territory in recent years has done so little to decrease the consumption of alcohol would seem to show a steadily increasing desire for it.

These figures should not be interpreted as showing the failure of the various means used for the limitation of the sale of intoxicating drinks. There is every reason for believing that these means are in a high degree effective and that without them the increase in the use of alcohol would have been much greater than it has been. The true meaning of the figures is, rather, to show the increasing force of this desire in modern society.

There are, of course, other great human desires besides the desire for alcohol, but in respect to these other desires it seems less difficult to explain the cause. It is not difficult to explain the desire for bread, nor the keen interest in all matters relating to the means of acquiring it. Problems of labor and capital, problems of high prices, problems of production and distribution of food, relate more or less directly to the bread question and become thus wholly intelligible, because bread is necessary to life. Neither is it difficult to understand another profound human desire, which involves serious social problems, the desire of the sexes for each other. Difficult as these social problems may be, the psychologist's part presents here less difficulty, for the place

of this great passion in human economy is clear.

The desire for alcohol approaches the above desires as regards both its force and its universality, but its place in human economy is not thus far clear.

The following familiar statistics are not cited in this case to show the extent of "human depravity," nor to point out an "evil" to be suppressed, but rather to indicate the force of a human desire whose cause we seek to determine.

The people of the United States are now consuming annually about 2,000,000,000 gallons of malt liquors, nearly 64,000,000 gallons of wine and more than 138,000,000 gallons of distilled liquors. In Germany the *per capita* consumption of distilled liquors is about the same as in this country, while their consumption of malt liquors is, *per capita*, about one third larger than ours and of wine about twice as large. In England the *per capita* consumption of malt liquors is still greater than it is in Germany, while the consumption of wine and distilled liquors is somewhat less than in Germany or in the United States.

In this country we have no means of deter-

mining accurately the outlay of the people for alcoholic liquors, but we know that the wholesale value of the malt, vinous, and distilled liquors produced annually in the United States is approximately \$600,000,000, almost the same as the total value of our wheat crop. These figures do not take into account the value of wines and liquors imported, nor the output of illicit distilleries. Of these illicit stills, according to the last report of the United States Commissioner of Internal Revenue, 1593 were seized and destroyed during the fiscal year 1914.

An intense human interest clusters around everything connected with alcohol. The very names of the countless forms of beverages, as well as their odors, tastes, and colors, are all interesting. Language itself reflects the depth of this interest, particularly in the many synonyms for intoxication. Partridge, in his book on "The Psychology of Intemperance," gives a list of about 370 words and phrases in English expressive of intoxication, and he says that a list of more than 600 words in German has been collected. In his opinion nothing except the sexual relation has made a stronger impression upon popular language.

The praise of wine has been celebrated in the poetry of every age. Drinking-songs have a peculiar charm. In the history both of religion and of medicine, alcohol has occupied a prominent place, and in some form it has been regarded as a cure for every ill. Huge volumes could be filled with the legislative acts of civilized people in their efforts to regulate its sale and use. In recent years an almost incredible number of books and articles has appeared relating to some phase of this subject.

It is evident, then, that there exists in the human mind, for some reason or other, a profound, persistent, and intense desire for alcohol. The psychologist is interested in discovering the cause of this desire and the sociologist well knows that it will not be until this cause has been determined that any real progress will be made in solving the social problem of alcohol.

How, then, shall the cause of the desire for alcohol be determined? It would seem *a priori* improbable that anything so profoundly and universally desired should not answer to some real need of the human organism. It is clear, therefore, that the first thing to do is to make a scientific study of alcohol and its relation to

the body and mind. It is only in recent years that any real attempt has been made to carry out such studies, but they have already cast a flood of light upon the subject. Physiological, psychological, and sociological laboratories, hospitals and asylums, medical records, and the reports of life insurance companies have all contributed to give us a more accurate knowledge of the action of alcohol on the human body and the human mind and to pave the way for a scientific theory of the alcohol motive. These researches are particularly instructive for the reason that they deal with the real question, i.e., with the effects of alcohol in moderate doses, not with its excessive use. The literature on inebriety, alcoholism, and intemperance has always been sufficiently abundant.

It would be impossible in this chapter to attempt even the briefest summary of these researches. It will be sufficient simply to recall the more important conclusions.

1. The desire for alcoholic drinks is due to the presence of ethyl alcohol, C_2H_6O . Beer, ale, wine, and even whiskey and brandy, have characteristic odors, pleasant to many people and ravishing to some, but it is not on this account that they are desired. The pleasant-

ness of the tastes and odor is largely if not wholly due to association with ethyl alcohol.

2. It is not on account of its food value that alcohol is desired. The researches of Atwater and others have seemed to show rather conclusively that a certain amount of alcohol, say two and one half ounces per day, may under favorable circumstances be oxidized in the body and so act as a substitute for other food by furnishing heat and possibly energy. It is not claimed, however, by those who hold that alcohol may in some cases act as a food that it is on this account that it is desired. The history of drinking, which shows that it has been wholly convivial among primitive people and that it is still largely so, precludes this view. It is only in modern industrial drinking that any attempt has been made to work on alcohol or to live on it, and here the attempt has not been successful, as Sullivan has shown in his careful and painstaking work on "Alcoholism."

3. It has now been pretty definitely shown that alcohol is not a stimulant, and thus there is overthrown at once the most commonly accepted theory as to the cause of the desire for it. Alcohol acts as a depressant upon all

forms of life from the simplest micro-organism to the most complex nervous structures in the human brain. It is interesting, however, to call attention to the fact, especially since a few physiologists still claim that under some circumstances it may act as a stimulant to certain bodily organs, — that if alcohol were a stimulant, this would not, after all, afford any evidence that it plays a useful part in human economy. A stimulant as such adds nothing to human economy, whether such economy is considered from the standpoint of the race or of the individual. It offers no gain in the long run and could be of no real advantage in the struggle for existence. A stimulant can be serviceable only in emergency cases and under abnormal conditions and as such cannot serve as an explanation for a desire extending to nearly all people in all periods of history.

4. The supposition may be made that alcohol increases muscular efficiency, at least temporarily, and that the desire for it may be explained in this way, but the experimental evidence forbids this view. Many series of experiments have been made by Warren, Frey, Schnyder, Destrée, Tavernari, Féré, Kraepelin, Partridge, Rivers, and others, using the

ergograph and other forms of dynamometer, to determine the effect of small doses of alcohol upon muscular power and efficiency. These experiments have shown that, as the result of small, or so-called normal doses of alcohol, there is a slight initial increase of muscular power followed by a decrease, so that, on the whole, the results reveal a loss rather than a gain in efficiency. With an increase in the size of the doses, the decrease in efficiency is greater. There seems some ground for believing that alcohol, while it does not increase muscular efficiency, shortens reaction-time at first and facilitates the liberation of energy. This may account to some extent for the feeling of increased efficiency which follows the ingestion of alcohol. If it be true that it shortens reaction-time and facilitates the liberation of energy, it still does not appear that this would offer any explanation for the world-wide desire for it. It has not been shown that any decided advantage accrues from the shortening of reaction-time or the quicker liberation of energy. The normal reaction-time and the normal liberation of energy would seem in the long run to be more advantageous. Kraepelin's conclusion is that the laborer who

gains his livelihood by the strength of his arm destroys by the use of alcohol the very foundation of his efficiency. The experiments of Hodge with retrieving dogs showed that the dogs given alcohol did about half as much work as the normal animals. The experiments of Durig in mountain climbing, with and without alcohol, showed that moderate doses of alcohol resulted in a loss of about twenty per cent in efficiency.

5. Alcohol, again, does not increase mental efficiency. The experiments of Kraepelin and his associates show that moderate doses of alcohol exert a deadening influence on all mental processes. Apprehension is slower, accuracy is lessened, errors are increased, and memory is impaired. The character of associations is also unfavorably affected, the number of higher logical associations being decreased, while associations depending upon similarity and contiguity in time and space are increased. Schnidman made experiments on the effect of alcohol in the work of translating from one language to another, with the result that under the influence of small doses of alcohol there was an increase of errors and a decrease of rapidity. The experiments of

Lieutenant Boy upon Swedish soldiers in revolver and rifle shooting with and without alcohol showed that accuracy was affected unfavorably by the drug. Mayer found that the speed of writing was lessened by alcohol. In Dr. Aschaffenburg's experiments with typesetters, he found that there was an average impairment of efficiency amounting to about nine per cent as the result of small doses of alcohol. Smith experimented on the effect of small doses of alcohol upon memory processes when the drug was administered for successive days.' The alcohol in these experiments was administered in the evening and was found to exert a damaging effect upon the memory processes to a very marked degree, the effect increasing from day to day. Fürer found that eighty cubic centimeters of alcohol taken in the evening was followed by increased errors in choice-reactions during the whole of the following day.

Experiments such as the above are difficult to carry out and possible sources of error may enter. It is highly desirable that still further researches should be made in this direction, eliminating every possible source of error. We shall await with interest the further researches

which are now being made in this field. It may safely be said, however, that the experimental evidence is already sufficient to show that it is not on account of any increased mental efficiency due to alcohol that the world-wide desire for it is to be explained.¹ The testimony of Helmholtz, in his speech at Berlin on the occasion of his seventieth birthday, is significant in this connection. Speaking of the conditions under which he had had his most brilliant intuitions, he said that the smallest amount of alcohol seemed to frighten them away.

The experimental evidence of the damaging effect of alcohol on physical and mental efficiency is confirmed by the practical experience of railroads, steamship companies, shops, manufacturing establishments, contractors, surveying and exploring parties, athletic teams, etc.

¹ Since the conclusive value of these researches has been questioned, as has everything else that has ever been said or written about alcohol, let it be explained here once more and emphasized that the argument in this chapter does not depend upon the results of any of these investigations. They show only this, and they are amply sufficient to show this — that the *desire for alcohol* cannot be explained by any supposed increase of mental or physical efficiency, either temporary or permanent, which might follow from its use.

An increasingly large number of railroads forbid the use of alcoholic liquors to their employees, in some cases even when off duty, while in shops and in mercantile establishments of all kinds statistics show a significant increase of accidents and decrease of efficiency immediately following Sundays and holidays. The desperate effort made by nations in time of war to suppress or lessen the use of alcohol in the army and navy is a practical demonstration not merely of its uselessness, but of its harmfulness. It is, however, only the uselessness and not the harmfulness of alcohol that we are at present interested in, since we are merely trying to trace the cause for the desire.

If next we consider the contributions of recent science to the use of alcohol in its relation to human health and longevity, we are again met with disappointment in our quest for the explanation of its use. Alcohol was formerly very freely used by physicians in both surgery and medicine, but faith in its therapeutic powers has now been almost wholly lost. The figures given by Horsley showing the decrease in the use of alcohol in English hospitals and asylums during the last

twenty years are exceedingly striking. In surgery alcohol has been replaced by antiseptics and in medicine by milk and eggs. Alcohol has now come to be regarded by physicians not as a cure for disease, but as a prolific cause of it. As an excretory product of the yeast plant, its action upon higher organisms is that of a toxin. Its regular moderate use renders the individual less resistant to disease and its excessive use brings a long list of diseases in its train.

The influence of alcohol upon longevity has now been studied with some thoroughness by physicians and actuaries, and some definite results have been gained, although here much work needs to be done. The results show, at any rate, that alcohol does not increase longevity, and hence we have here again no clue to the world-wide desire for it. Robert Mackenzie Moore, actuary of the United Kingdom Temperance and General Provident Institute, in a recent report based upon sixty years' experience of that company in the insurance of the lives of abstainers and non-abstainers (the latter being moderate drinkers and good risks and belonging to the same class and following the same occupations as the former),

found that in respect to longevity the abstainers showed a marked superiority over the non-abstainers throughout the whole period of life for every class of policies and for both sexes, however tested. For instance, at the age of thirty the expectation of life for the non-abstainers is 35.1 years; for the abstainers, 38.8 years, a difference of nearly eleven per cent. At the age of forty, the percentage of difference is the same. Another very thorough and impartial investigation has been made by Mr. Edward B. Phelps on the mortality due to alcohol. It is based on the testimony of the medical directors of three prominent life-insurance companies of America. Mr. Phelps's conclusion is that eight per cent of all deaths of adults in the United States are due to alcohol.¹

If we turn, finally, to the social relations of men in our search for an explanation for the universal desire for alcohol, our reward is even less. Alcohol, indeed, encourages sociability, but it would be hard to show that this in itself is a benefit proportional to the desire for it,

¹ For similar conclusions from statistics of other life-insurance companies see article by Samuel Wilson entitled "Is Moderate Drinking Justified." *Outlook*, June 30, 1915.

and we find in connection with its use a long list of social evils, such as poverty, crime, and racial degeneracy. These evils are connected for the most part with the excessive use of alcohol and consequently they interest us only indirectly here; but it would appear to be one more disadvantage to be attributed to alcohol that its moderate use is apt to issue in excessive use and so lead to many unhappy and disagreeable consequences, such as drunkenness, disability for work, domestic trouble, poverty, crime, and degeneracy of offspring.

We are thus brought finally face to face with the question, Why do men desire alcohol? The theories hitherto advanced in explanation of the alcohol motive have failed to take into account certain essential facts in regard to the problem and have therefore been incomplete. Among these facts are the following: The desire for alcohol is common both to civilized and uncivilized man. It tends to increase rather than to decrease with the advance of civilization in spite of vigorous and to some extent successful efforts to restrain it. It has reached an unparalleled degree of intensity at the present time in prosperous communities relatively rich in comforts and luxuries. It is

strong, again, in industrial and manufacturing centers among plodding and underpaid laborers. It is somewhat stronger in northern progressive races than among the less progressive southern people. It is particularly characteristic of the adult male individual, the desire being decidedly less strong in women and children. It is not an appetite in the ordinary sense of the word, as it answers to no inner need of the body so far as is known. To these facts should be added those specially noted above, namely, that alcohol apparently adds nothing to either physical or mental efficiency, that it contributes nothing to health or longevity, and does not enhance social well-being.

Is it possible to explain the desire for alcohol on the ground of its immediate pleasurable mental effects? It deadens pain to some extent and drives away care. It produces a feeling of euphoria, of well-being, comfort, contentment, ease, and inner harmony. Under the influence of alcohol many of the unpleasant feelings accompanying the daily drudgery of life temporarily disappear or are at least alleviated, such, for instance, as fatigue, apprehension, fear, worry, anxiety, and to some extent physical pain. Selecting one from any number of

illustrations which might be drawn from literature, we read in Gösta Berling:—

The year had dragged itself out in heavy gloom. Peasant and master had passed their days with thoughts on the soil, but at even their spirits cast off their yoke, freed by brandy. Inspiration came, the heart grew warm, life became glowing, the song rang out, roses shed their perfume. The public-house barroom seemed to him a tropical garden, grapes and olives hung down over his head, marble statues shone among dark leaves, songsters and poets wandered under the palms and plane trees.

Another author, picturing the hopeless grinding toil of the coal miner, his monotonous and unillumined life, his long working-day, his hasty and insufficient supper, and his hard bed, says that at the end of the week when a little respite comes, the “demand for joy” drives this coal miner to the saloon.

But this explanation, at first sight partially adequate, when more carefully considered, encounters serious difficulties and only adds to the obscurity of the subject. Are we to understand that the desire for alcohol is due to the “demand for joy”? There never was a time in the history of the world when, quite apart

from alcohol, joys were so abundant as they are in America at the present day. The rich have every comfort and luxury and the poor have every humane consideration, while laborers have shorter hours, better pay, better food, and better clothes, and more books, papers, and other forms of entertainment than ever before in the world's history. We are comparatively prosperous, happy, and well fed; we have abundant leisure and countless comforts; yet it appears that we need two thousand million gallons of alcoholic liquors yearly to complete our "joy." Furthermore, if this were the correct theory, it would be impossible to explain the lesser desire for alcohol among women, for although at present in America the lot of woman is a relatively happy one, this has not been the case among primitive people, nor in historic times, nor even in other countries at the present time. Her life has been relatively monotonous and laborious and her joys and amusements have been fewer.

But serious psychological objections to this theory appear also. Joy and pleasure are the mental accompaniments of physical well-being, of mental and physical health, while alcohol acts as a poison in the presence of all

forms of life. Against this apparent contradiction little is gained by saying that the joy of alcohol is an abnormal joy answering to an abnormal or diseased condition. The desire is too universal, too fundamental, so to speak, for that. Or, if we say that alcohol brings an immediate and temporary joy, while its poisonous effects are delayed, we encounter two difficulties; first, the difficulty of showing what particular kind of benefit corresponds to the immediate and temporary joy, and second, the difficulty of explaining on any principles of evolution the desire for a drug whose effects are on the whole injurious — a desire which is so strong and so universal as almost to merit the name of an instinct. This seems to be a kind of deadlock to any further progress in arriving at a theory of alcohol. But the joys of alcohol are evident and its injurious effects are equally evident. It is clear, therefore, that the “demand-for-joy” theory is only a superficial statement of a certain truth whose explanation lies deeper.

But leaving for the moment the “demand-for-joy” theory, let us consider the view that alcohol banishes care and drives away sorrow and pain; in other words, that it is narcotic in

its action, a kind of sedative or anæsthetic. This theory seems at first sight to account for some of the facts. It is now generally, though not quite universally, admitted by physiologists that alcohol is not a stimulant, but a narcotic. It apparently paralyzes the higher brain centers and in thus inhibiting the inhibitory centers produces effects resembling stimulation. Furthermore, pain, sorrow, and care are ever present in human life, making the universality of the desire thus far intelligible.

But clearly the narcotic theory encounters difficulties from the same sources as the "demand-for-joy" theory. It fails first to account for the lesser desire among women, who have certainly at all times had their share of sorrow, pain, and care. It fails likewise to account for the increase of the desire in times of prosperity and activity, or in times like the present of improved hygiene, increased longevity, and multiplied pleasures and comforts. Finally, the narcotic theory, if it were true, would seem to be nature's checkmate upon itself, for pain in all its forms is evidently purposive. Are we to suppose that nature has discovered a way to tear down its own danger signals? The narcotic theory would be available only in

respect to times of degeneration and national decay. Nordau, who explains the desire for alcohol in this way, regards the present as such a time of degeneration, and Partridge, who recognizes the narcotic motive as one of the elements in the desire, seems to think that so far as it is present it betokens "old age and disease in a nation." But since the desire flourishes most strongly, as we have seen, in times of great national vigor, such, for instance, as prevail at the present time in Germany, England, and America, the narcotic theory seems to fail. Nevertheless, it may appear below that the narcotic motive is present, after all, only not in the form hitherto recognized.

Another writer, Reid, has broached the theory that the desire for alcohol is a by-product of evolution, a specific craving which nothing but alcohol will satisfy. It is coextensive with the human race and harmful in its results, and is to be met in only one way, namely, by the automatic action of "evolution against alcohol," by the action of natural selection in gradually eliminating those not immune to the desire. It is part of Reid's theory to maintain that the people of southern

Europe have become partly immune to alcohol, owing to its abundant supply, and are therefore more temperate. Almost all the facts upon which this theory is based are open to question.

Partridge, while recognizing the narcotic motive in the desire for alcohol, "the longing to escape from pain, to seek relief in inactivity and rest, a turning backward from the strenuous life," apparently believes that the so-called "intoxication motive" is more important. It springs from the desire for states of consciousness of higher intensity, for feelings of exaltation, for life and life more abundant, for freedom and expansion, for states of higher tension. It is the erethic impulse, a craving for excitement.¹ But the evidence is overwhelming, as we have seen, that alcohol, so far from contributing to the more abundant life, contributes from every point of view to the less abundant life, and as for the desire for states of higher tension, there is every reason to believe, as will be shown in what follows, that alcohol produces states of lower tension and is desired for precisely this reason. And if the desire for alcohol were due to a

¹ Partridge, *The Psychology of Intemperance*, chaps. ix, x.

longing for excitement, life, tension, movement, this longing would seem to be well satisfied by the conditions in modern American cities without recourse to two thousand million gallons of alcoholic liquors yearly.

Any satisfactory theory of the alcohol impulse must not only take account of the facts to be explained, some of which we have mentioned above, but it must also be grounded on an accurate knowledge of the whole life history of man, particularly his mental development and the corresponding development of the brain. It would be necessary, furthermore, for such a theory that we should have an accurate knowledge of the action of alcohol on the human brain. Neither psychology nor physiology is able as yet to furnish this knowledge completely, so that any theory of the alcohol motive must be tentative, awaiting further scientific advance. The following observations, therefore, although for brevity's sake put in somewhat dogmatic form, may be considered as suggestions toward such a theory.

It is to the psychology of play and sport that we must look for the key to the psychology of alcohol. Let us, therefore, recapitulate briefly those points in the psychology of play,

as we have developed them in Chapter II, that bear directly on our present problem.

Human progress seems to be in a certain definite direction and to involve the development of certain definite mental powers and of the corresponding higher cerebral centers. The chief of these powers is that of voluntary, sustained attention, which differentiates man sharply from the lower animals and likewise distinguishes civilized man from the savage. Progress has been possible because man has been able to narrow the field of attention, to concentrate or focus his powers, to live under mental stress, strain, and effort, and to hold his attention on a definite object. The word "tension" perhaps best expresses both psychologically and physiologically the subjective correlate of progress. It is characteristic of the savage as compared with the lower animals, of civilized man as compared with the savage, of northern races as compared with southern, and of the male as compared with the female. As concentration, sustained attention, and abstraction, it issues among civilized man in science and invention. Whether the product be Newton's "Principia," or wireless telegraphy, or even the long-sustained

working-day of the common laborer, it presupposes the above-mentioned powers and involves the continued development of the higher cortical centers of the brain. There is something, whether it be the "will to live," or a "vital impulse," or the cosmic consciousness, or only natural selection, that is eternally driving us on in this direction.

Now, these psychical processes, which have been developed late in the history of the race, are most subject to fatigue, and cannot be used continuously during all of our waking hours. During sleep they enjoy almost perfect rest, our dream activity taking the form of passive reverie. Nature seems, therefore, to demand, during a considerable part of our waking hours, some form of activity which shall afford rest to the higher and newer mental processes, while providing employment for the lower ones. To such a condition of mind and body we apply the term "relaxation," and it embraces a considerable portion of our daily activity. It is most perfectly typified in play and sport, but includes many other forms of human interest and activity, such, for instance, as the enjoyment of music, of the drama, and of other forms of fine art, the

reading of fiction, and countless other kinds of amusement and entertainment not commonly included under the terms "play" or "sport."

But it is in children's play and in adult sport that we find the principles of relaxation best exhibited as they will be found presently to bear upon our problem. The active life of the child is, as we have seen, almost wholly a life of play. The mental functions developed late in the history of the race come to maturity late in the life of the child. Hence he rebels instinctively against work, for it involves yet undeveloped powers, those connected with spontaneous and sustained attention. Play is self-developing and supplies its own interest. Furthermore, a study of children's plays shows that they are largely reversionary in form, following the old racial activities of our remote ancestors. The boy, therefore, runs, races, rolls, wrestles, wades, swims, climbs trees, shoots with sling or with bow and arrow, goes hunting, fishing, canoeing, camping, builds tree houses, cave houses, wigwams, and pursues a hundred occupations recalling the life of primitive man and far removed from the serious life of modern man, the life of the farm,

the shop, the office, the factory, the bank, or the schoolroom. The brain paths involved in children's play are the old time-worn easy paths requiring no new associations, no abstractions, no strong and sustained effort of will or attention.

In adult sport we have a still better illustration of the principles of relaxation. We have seen that those forms of sport which afford the most perfect rest and relaxation are of a character to use the old racial brain paths and rest the higher and newer centers. The tired teacher, lawyer, doctor, preacher, or business man, when his vacation comes, reverts to the habits of primitive man. He takes his tent, rod, gun, or canoe and goes to forest, lake, or mountain, wears more primitive clothes, sleeps on the ground, and cooks over a camp-fire. Hunting, swimming, yachting, dancing, wrestling, prize-fighting, horse-racing — all these are illustrations of the rest afforded by primitive activities. As forms of relaxation they seem so natural to us that often we do not realize how primitive they are and how far removed from the real workaday world of modern life, the world of mental concentration, of pen and ink and books, of clerks and

stenographers, of office and courtroom, of flats and congested cities, of business and finance. Mankind appears to be under the dominance of two opposing forces. On the one hand, we are driven on by the relentless whip of progress, which demands ever greater and greater specialization, application, concentration, and powers of conceptual analysis. On the other hand, the tired brain rebels against this ceaseless urging and seeks rest and relaxation.

But, now, even in the early history of the race, there was discovered another means of relaxation, artificial, to be sure, but quick, easy, and convenient. Drugs of various kinds, owing to their peculiar action upon the brain, effect a kind of artificial relaxation. Ethyl alcohol, produced everywhere, whenever the ever-present yeast cells come in contact with the sugar of crushed fruit or fermented grain, has the peculiar property of paralyzing to a greater or less extent the higher and later developed brain tracts which are associated with those peculiar forms of mental activity accompanying work and the strenuous life. The later developed and more delicate centers of the nervous system are more susceptible to the

attacks of an intruding destructive agency, such as alcohol. Thus it comes about that alcohol answers the demand of the body and mind for relaxation and accomplishes in an artificial way what is effected in a natural way by sport and play and other forms of relaxation. The latter effect this end by turning the energy of the brain into lower and older channels, leaving the higher centers to rest; the former, by directly narcotizing the higher centers and thus liberating the older, freer life of the emotions and the more primitive impulses.

It should not be understood that alcohol has any "selective affinity" for any part of the nervous system. Its action, like that of other toxins, is no doubt diffusive, but affects most seriously those parts of the brain having less power of resistance, particularly the centers late in the order of development. Its depressive effect is felt to some extent, however, upon the lower reflex centers, and as such results again in physiological relaxation. This is owing to the fact that its depressive action raises the threshold value of the reflex arc and so diminishes reflex excitability.

From this point of view, therefore, we see

that while the action of alcohol is narcotic, nevertheless the narcotic theory, as it has hitherto been presented, is very one-sided, and the truth in the narcotic theory, as well as in the stimulation or intoxication theory, is now brought into proper relief. One would not say that play and sport are narcotics. They seem to be very refreshing and stimulating. In the same way alcohol is stimulating, not directly, for its physiological action is wholly depressive, but indirectly by inhibiting the higher mental processes and setting free the older and more primitive ones. Thus, alcohol appears as a depressant of voluntary attention and effort, of logical associations and abstract reasoning, of foresight and prudence, of anxiety and worry, of modesty and reserve, and the higher sentiments in general, while, on the other hand, it acts indirectly as an excitant of speech, and laughter, and song; of emotional feeling and expression; of sentimentality; and, in increased doses, of still older and more basic impulses, such as garrulity, quarrelsomeness, recklessness, immodesty; and, finally, of coarseness and criminal tendencies. Thus, under the progressive influence of alcohol, we see the whole life history of the race

traversed in reverse direction, for the criminal life of to-day represents the normal life of primitive man.

We thus trace the desire for alcohol to the inherent need of mind and body for relaxation, a need normally supplied by all the varied forms of play and sport. Psychologically it is the expression of the desire for release from the tension of the strenuous life. In a sense, therefore, it is the strenuous life which is responsible for the alcohol impulse, but it should be noted that the word "strenuous" is here used in a broad sense. It does not refer necessarily to an exciting, active, high-pressure life, but refers rather to any condition of unrelieved tension, where sustained effort is demanded with little opportunity for complete rest and relaxation. While these conditions are, perhaps, most often encountered in the high-pressure life of our cities, they are also present in the unrelieved toil of the industrial worker.

We are in this way able to understand some of the facts which, as we have shown, must be considered in any theory of the alcohol motive. We may understand not only the increased desire for alcohol in modern life, but also the lesser need for it on the part of

woman. Woman is less modified than man and presents less variation. Her life is calmer and more even. She is more conservative, representing the child type, which is the race type. Her life is less strenuous. She is not keyed up to so high a pitch, and hence has less need of relaxation and feels less demand for play and sport. Man, on the other hand, represents variation. The mental powers peculiar to advancing civilization are more developed in him. He has to be in the vanguard of progress. With him, therefore, the stress of life, the tension, the excitement, are greater, and he feels more the need of the harmonizing action of alcohol.

Again, we can understand why even the primitive man finds alcohol a relief, for the tension of his life is great as compared with the lower animals, and we can understand why the desire increases with the progress of civilization and the corresponding increase of tension. The stress of life is greatest among the Anglo-Saxon people and greatest of all, perhaps, in American cities at the present time. In this country, especially, the intense life of concentration, of effort, of endeavor, of struggle, of rapid development, has for its

correlate an intense longing, not for stimulants, — for our life, our climate, our environment are surely stimulating enough, — but for rest, for relaxation, for harmony, for something to still temporarily the eternal turmoil.

Does the fact that the desire for alcohol is increased by the indulgence in it and the apparent fact that those who fall victims to its excessive use are not always those most in need of its harmonizing action present any difficulty in this theory? Probably not. The desire for relaxation is not necessarily increased by the use of alcohol, but only the ever-renewed demand for that which produces the longed-for effect, and, again, it is not certain that those who fall victims to its excessive use are those most in need of its harmonizing action. Here the element of prudence and self-control must be taken into account. Excessive users may be those having lesser control or greater opportunity, not those experiencing stronger desire. While the desire for alcohol is increasing with the complexity of society, it is actually true that drunkenness is decreasing, and it is possibly true that the number of total abstainers is increasing. These things are determined by custom, by individ-

ual environment and education, and by the power of self-control. But the steady increase in the desire for alcohol is shown not merely in the steady increase in its consumption, but still more in the fact that it increases in the face of public and private sentiment, legal statute, and social effort.

We see also why the use of alcohol has commonly followed the law of rhythm. Among primitive tribes drinking was periodic, wild orgies of intoxication following considerable periods of the plodding life. This periodicity is seen in convivial drinking of all times and is a familiar fact in every community at the present. The power of self-restraint, strengthened by public sentiment and private prudence, deters from the use of alcohol up to a certain point, when the cumulative force of the desire, which is the cumulative need of release from painful tension, overthrows all barriers, and excess and complete relaxation follow for a season.

So it appears that the effect of alcohol is a kind of *catharsis*. But, just as we have seen in the case of play and sport and laughter and profanity, it is a *catharsis* only in a very limited sense, not in the Aristotelian sense of

purification by purging something away, but only in the sense that it affords rest and relaxation. Truer, perhaps, it would be to say that alcohol is a kind of escape. It is not in itself desired; often enough it is hated. But the user finds himself under the rule of an imperative, an insistent idea, a tormenting presence, and this presence is his whole deep human personality crying out against the eternal urge of the "will to live." The spirit of the age proclaims that we must be efficient. Efficiency, and ever more efficiency, is demanded, and the desire for alcohol is the desire for rest, for release from the tension, for freedom and abandonment. Nietzsche, crying out against this spirit of progress, says: "Why does precisely this gloomy and vehement oppressor pursue me? I long for rest, but it will not let me."

The relation between the effect of alcohol and that of the drama is again clearly expressed by Benjamin Ide Wheeler, when he says:—

That which was at the beginning the charm of the drama, and has been, so far as it is true to itself, ever since, is its power to release those who behold it for a little while from the burden and

enthralment of the commonplace workaday life, and bathe their wearied souls in dreams. This is the very heart of Dionysus, and this too is his claim to control the fruit of the vine.

But now, if this theory is correct, what is the conclusion? Is alcohol a means of purification through relaxation? Just so far as it affords rest to the wearied higher brain and relief from the tyranny of the will, it is a means of purification, but unfortunately it is at the same time a poison, bringing in its train a heavy residuum of damage not only to society, but to the individual. The imperative need of relaxation is apparent, but, while play and sport are relaxing and recreative, alcohol is relaxing and destructive. The colossal evil of its excessive use is evident to every one, but there is reason to believe that even its moderate use detracts from the sum total of well-being of the individual in exact proportion to the amount used. It is possible, however, that the case is still worse. Let us suppose that alcohol were not a poison, that it had no effect beyond a slight paralysis of the higher brain. What will be the cumulative effects of such action upon the individual and the race? This question cannot at present be answered. It seems prob-

able that this constant doping of the highest and most delicate nervous centers, while it affords the needed relaxation, may work havoc with the delicate organization of the brain. Possibly alcohol represents a factor of maladaptation in the evolution of man and will prevent the realization of his highest destiny. If we consider the degree of civilization attained by the ancient Greeks, several stages above our own in art, and on an equal plane at least in poetry, in eloquence, and in philosophy, we are impressed with the slight progress we have made, when measured by a reasonable expectation based on the time which has elapsed and our rich intellectual inheritance. Gladstone bemoaned the lack of progress in intellectual power made by man in recent centuries. Is any one in position to say that this has not, in part at least, come about from meddling with ethyl alcohol?

In this chapter we have been concerned only with the psychological aspects of the alcohol problem. In our concluding chapter some references will be made to the practical and social questions involved. Only this may be said here: To the psychologist it would appear

that the method of substitution will have more satisfactory results in the end than the method of direct suppression. Merely to suppress the sale of alcohol is like putting a lid on the teakettle to prevent the steam from escaping. As long as the fire burns brightly beneath and there is water in the kettle, something will probably happen to the lid. If the lid is screwed on tightly enough, something will probably happen to the kettle. We must either provide some way for the steam to escape or else remove the fire. So we must either provide some substitute for alcohol, such as healthful forms of relaxation, or else, by a different kind of education or a different manner of social life, bring about such a harmony in the human personality as to make unnecessary the resort to temporary expedients.

CHAPTER VI
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FROM the flood of writings called out by the war in Europe, a few things have become fairly clear. For instance, it is evident that it has been the most costly and the most tragic of all the wars of history, that it proceeded from the least apparent causes, and that it came in the face of new and powerful forces making for peace.

But these facts, if such they be, reveal a situation which to the sociologist is more than puzzling, it is amazing. If, as Norman Angell has maintained, modern wars are wholly futile so far as the possibility of bringing any kind of gain to the victorious nation is concerned; if war is contrary to the spirit of the age, which is no longer martial, but industrial, commercial and humanitarian; if the contrast between the brutality of war and the culture and refinement of the age is so great that war has become grotesque and anomalous; if war is the outgrowth of political rivalries which have

largely lost their significance owing to the fact that nearly all present vital human interests have widened out beyond the mere political boundaries of the state and become international in their scope; and if, finally, the nations in order to carry on a war are obliged to assume a debt so crushing that posterity cannot exist unless the debt is repudiated in whole or in part,—why, then, it would appear that the whole European world has gone insane.

But the student of history and of psychology will look at the matter in quite a different way. He will see that the history of mankind for thousands of years has been a history of incessant warfare, and that the new economic and industrial conditions which have made war irrational are not more than about one hundred years old, while the human brain is practically the same old brain of our fathers and forefathers, deeply stamped with ancestral traits and primitive instincts, which cannot thus suddenly be outgrown. It is society which has suddenly changed, not the units of society.

From the beginning of the war, sociologists, economists, philosophers, and political theo-

rists tried their hands at explaining its causes, and with small success. Its roots must be sought in psychology and anthropology.

The anthropologist and historian will review the situation somewhat as follows: The rivalries between nations, with their mutual suspicion, distrust, and hatred leading to the clash of arms, are survivals of early conflicts between primitive social groups. These conflicts were incessant in all parts of the world wherever there were virile and progressive races, and the cause of the conflicts was the natural desire of the stronger to exploit the weaker, it being always easier and more attractive to gain sustenance by robbery than by labor. Furthermore, these incessant conflicts were in a high degree beneficial to social development, resulting in the extermination of the unfit and in the consolidation and survival of the strong and the brave. *Within* the primitive groups there was some degree of co-operation, sympathy, mutual helpfulness, regard for life and property, together with some observance of "law" and "order" and "right" and "wrong," this primitive organization resulting, perhaps, from the rules and regulations imposed by a victorious group

upon the conquered one. *Between* the groups there was fear, suspicion, hatred, with no respect for life or property. Might was right. Within the group certain actions were stigmatized as wrong and were punished, such, for instance, as murder and theft. But between members of hostile groups these acts were praiseworthy.

The modern constitutional state is the historical development of the primitive group. Within the groups, now called nations, the upper classes, nobles, lords, officers, plutocrats, still to a greater or less extent exploit the lower classes, as the victors did the vanquished, and between the groups there is still the old rivalry, suspicion, and distrust, while the taking of life and property is still praiseworthy and is not called murder and theft, but war. And *patriotism*, which is devotion not to humanity nor to society, but to that particular political group to which one happens to belong, is still accounted the first of all the virtues.

But meanwhile, within the political state there have grown up two new communities — one moral and the other industrial and commercial; and gradually, while the old bounds of the political state have persisted, the moral

and industrial states have expanded till they have burst the bounds of the political state and become international and world-wide. A cosmopolitan conscience has replaced the old group conscience, and moral obligations extend to all mankind. In time of war between the nations, however, under the transport of patriotism, the old group consciousness revives, with its deep-seated instinct of pugnacity, and with it is revived the old group conscience and the ancient hatred and suspicion, and the ancient desire to exterminate the rival group. Hence the reversion in time of war to primitive standards of conduct.

But under the completely transformed conditions of society in modern times, the original *raison d'être* of war has ceased to be. Victory is no longer to the physically stronger and mentally braver. The vanquished are no longer exterminated or enslaved. The victors lose, perhaps, as many of their fighters as the vanquished, and the disabled are vastly more in number than the dead, and both the dead and the disabled are the flower of the nation's youth. Meanwhile, the monstrous cost of a modern war, which impoverishes the nation and its posterity, the paralysis of a great and

intricate system of world commerce and industrial international relations, the colossal destruction of wealth, the irreparable damage to progress and civilization, the impoverished physical heredity of a whole people, the affront to moral ideals slowly and painfully achieved, the untold burden of pain and woe and human suffering in desolated homes far from the field of battle, all combine to make war repulsive and repugnant to modern sense. It no longer cultivates manly virtues, but for the most part only machination and mechanical ingenuity.

It is probable that all the benefits which a warring nation hopes to gain by victory are in modern times illusory, or at least they are so far illusory that they are almost if not wholly confined to the circumstances of some hypothetical future war. For instance, a great nation demands the control of some celebrated strait or narrows, so that it may have an outlet for its vast exports — an open way to the sea, although *in time of peace* that nation already has the enjoyment of the freest use of that strait. In other words, were it not for some hypothetical future war, that nation has already the open way to the sea which it demands. Another great nation desires a

place in the sun, the freedom of commerce, or a fair share of colonies in distant lands, the colonies being desired for purposes of trade and colonization of its emigrants. But in time of peace this same nation extends its trade by leaps and bounds to every corner of the earth freely, and has the utmost freedom of commerce, and sends its emigrants in great numbers to prosperous North and South America. It is only in time of war that the opportunities for trade of that country are limited or that it would profit by having its emigrants under political control. Colonies again in distant parts of the earth may be desired for coaling-stations, but it is only in time of war that the ships of a nation cannot coal freely anywhere.

Still another country desires to retain or regain disputed territory, although in time of peace probably no citizen or group of citizens in its own or in the coveted territory would have its opportunities in any way enlarged or its condition benefited by mere political transference. The acquisition of territory is, again, a common excuse for war, but it has never been shown that, under our modern conditions, the citizens of larger states are any happier or wiser or wealthier than the citizens

of smaller states. Thus we have the vicious circle; war exists because of war.

War being thus outgrown and wholly irrational, and having no longer any possible purpose except to perpetuate itself, and being opposed to the spirit of the age and discouraged by the powerful peace movements of the day, and directly adverse to the all-controlling and all-absorbing industrial and commercial interests of the world, it would seem that it must soon disappear from the face of the earth. But strangely enough such an outcome, happy as it might be, is made probable neither by the study of history, psychology, nor present political tendencies. To the psychologist, indeed, it appears that the whole trend of social movements is in a direction favorable to the perpetuation of war.

One hundred years ago there were bright visions of universal peace. War, it was believed, was an iniquitous invention of evil and mischievous men, interfering with the peace and prosperity of the world. Free trade between nations and free competition between men were to inaugurate a reign of universal peace and prosperity. The function of government was to be limited to a minimum. A sort

of universal fraternity, pan-humanism, or internationalism was to take the place of fratricidal strife.

This dream has been poorly realized. Free competition has not worked in practice, and the emphasis is being put more and more upon the functions of the state. To be sure, many would substitute "society" for the state, and, indeed, Socialists and Utopianists still look forward to a "new basis of civilization," in which a pleasure economy is to replace the old pain economy, when surplus energy, equality of opportunity, increase of food, short working-hours, good sanitation, good housing, etc., will release starving human faculties, resulting in human culture, morality, economic equilibrium, and finally in a "denationalized fraternal humanity." Thus, with the disappearance of poverty the last obstacle will be removed to upward human progress and universal peace.

It is the purpose of this paper to point out some of the psychological obstacles to the realization of this ideal. Meanwhile, it is obvious that the political obstacles are equally great.

At the present time the trend of political

events is precisely in the opposite direction. With the unification of Italy in 1859, there awoke the new spirit of nationalism and the revival of patriotism. In 1861, the American Union, fired by the same spirit, resisted disunion. Then followed the unification of Germany, the awakening of the Slavs, the expansion of Great Britain.

Instead of the anticipated free trade between nations, each country by means of protective tariffs drew the mantle of self-sufficiency more closely around itself. In place of the expected pan-humanism, a new patriotism has everywhere sprung up. Add to this another fact, perhaps correlated with it, that in the last hundred years a new impulse of cosmic energy, or something of the kind, seems to have flowed into the motor nerves of human beings. There is tremendous activity in the form of striving. The gospel of striving which dates from Lessing and Fichte, and which found its poetic expression in Goethe, is the gospel of modern life. It exhibits itself in intense desire for expansion, for self-expression. It has produced stupendous results in scientific invention, discovery, industrial and commercial expansion. Then follows the desire for

political expansion, and the occasion for war is at hand. The gospel of striving apparently leads to the gospel of strife.

While to a superficial observer the whole tendency of modern thought is in the direction of universal peace, to the more careful observer it is all in the direction of war. It was not even necessary that the voice of Nietzsche, with his gospel of the will to power, should be reëchoed through every land, nor that the new philosophy of Pragmatism should come forward to teach us that nothing succeeds like success.

But perhaps the war in Europe is itself the best witness to the fatal political obstacles which stand in the way of these dreams of peace, for it presents the astonishing spectacle of the greatest war in the world's history proceeding from the least apparent causes and in the face of the most powerful forces working for peace. That such a colossal war should occur under circumstances so adverse to war would seem to indicate that it was made necessary by some tremendous issues, either moral, religious, economic, or commercial.

But strangely enough no such issues are apparent. There were no great moral issues

involved, as in the American Civil War, no great religious questions as in the Crusades and the wars of the Reformation, no great monetary crises, as in some of the Italian and Roman wars. Starvation has sometimes led tribes or nations to war, but starvation threatened none of these warring countries. On the contrary, they were all in a highly prosperous economic condition. Wealth, prosperity, comfort, and luxuries abounded. "Never since the world began," says Albert Bushnell Hart, "was trade so broad and profitable as in the year 1913." The total value of international commerce was \$42,000,000,000 in that year. The total value of German exports and imports combined was \$5,000,000,000; and of English, \$6,900,000,000. Germany's actual and proportional trade was increasing from year to year. England was exporting goods to Germany valued at \$292,000,000, and importing goods from Germany valued at \$394,000,000 yearly. The entrance of Italy into the war revealed only too clearly that war has its roots in psychological causes more than in great political or economic issues or in heroic defense of the fatherland.

Does this strange situation admit of any

explanation? Or must we say that there are forces at work in social evolution which we do not understand — that it is dangerous for man to meddle too much with his own destiny, and that out of these terrible wars some great good may come in ways unknown? This question may not be answered, but at any rate some light is thrown upon the situation by the psychologist. In all the many books and articles that have recently appeared on the causes of war in general, and the European war in particular, there is a noticeable failure to take due account of the psychological factors in the situation.

As a single typical illustration let us consider the illuminating articles by Mr. G. Lowes Dickinson entitled "The War and the Way Out," published in recent numbers of the "Atlantic Monthly."

Mr. Dickinson traces the causes of war to the artificial rivalries between those abstract and unreal beings called states, rivalries which are wholly unshared by the real men, women, and children who compose the state. The actual citizens of the state desire to live in peace and quiet, to till their land, sell their produce, and buy their necessities, and are but

little interested in the question whether the shores of the Baltic shall belong to Russia or Germany or whether Constantinople shall be controlled by one nation or another. Nor, indeed, do these political relations make any material difference to the people themselves; they make a difference only to that idol, the abstract state, and then only in time of war. The remedy, therefore, is to be found, first, in the cessation of these international rivalries, second, in the international control of armaments, and third, in the elective allegiance of disputed territory, such, for instance, as Poland, Alsace and Lorraine. The cause of war being thus removed, the peace-loving, law-abiding, and land-tilling citizens will live in happiness and prosperity.

This programme is most captivating, and no one can doubt that if international rivalries could be prevented in this way, the immediate cause of many wars would be removed. But the greater number of the wars of history have not been between rival states, but have been wars of conquest and civil wars, and the real causes of them all lie deeper than in any political relations, deeper than the love of conquest, deeper than in any economic or

commercial complications. All these alike are the occasions and not the causes of war.

Mr. Dickinson regards the state as an abstraction, in a way unreal, and not having necessarily as its interests the interests of the real people who compose the state. This is probably true, but Mr. Dickinson's constructive programme rests, if not upon an abstraction such as the political state, nevertheless, upon a myth, namely, the myth of the peace-loving, law-abiding, and land-tilling citizen, who, if opportunity offers, will till his land and buy and sell his goods in peace and prosperity. This quiet, peace-loving, and land-tilling citizen, if not quite a myth, is at any rate not typical of the modern citizen. The typical man of to-day has not, to be sure, any conscious desire for war nor any wish to violate the laws of the state, but he is an exceedingly complex product of biological evolution, of modern civilization and of social forces, and in his own brain may, perhaps, be found the real powder magazine responsible for war. The man of to-day is a high-tension being, with a highly organized brain, possessing an immense amount of potential energy in a state of rather unstable equilibrium, the product of an evolution which

has discovered the survival value of certain peculiar mental qualities. Beneath this superior brain, and sometimes perilously near the surface, there lies a vast network of inherited dispositions connecting the man of to-day with his warlike savage ancestors.

In place, then, of this unreal social unit, the peace-loving, land-tilling citizen, we have the real man, the restless and aggressive man, who loves the city rather than the country, frequents the stock exchange, the theater, and the moving-picture show, likes to speculate and gamble, is fond of rapid transit by means of steam or trolley car, automobile or aircraft, passes much of his time indoors, reading, writing, planning, and contriving, delves into new problems of philosophy, science, and invention, exploits new lands and new routes of trade, invents new guns and new explosives, devises new methods of rapid communication and transportation, is addicted to the use of tobacco and alcohol and strong coffee and tea, is subject to chronic fatigue, has a tendency to the use of poisonous drugs and to insanity and suicide and small families.

This is our typical man of to-day, and beside him and living in close proximity to him,

there is another class, likewise neither peace-loving nor land-tilling, namely, the class of dependents, delinquents, and defectives.

This, then, is the material we have to work with, and now, given this material, let us suppose that international rivalries should cease, that our colossal modern armies and navies should disappear, and that the vast number of men and the enormous amounts of capital involved in military armament should be turned into productive channels, and let us suppose, further, that the burden of taxes hitherto required for armies, navies, and pensions should be lifted, and with it lifted also the fear of invasion,—what, then, would happen? Something very different, no doubt, from that condition of idyllic happiness and peace which one infers from the arguments of the pacificists.

The fact is, the causes of war lie much deeper than in any political conditions. They are to be sought in the constitution of the human mind. The question, therefore, is a profoundly difficult one and demands a different method of approach. It must be approached from the biological and psychological as well as the sociological point of view.

The following attempt to approach the subject from its psychological side is submitted in the belief that the facts here presented, while no doubt partial and incomplete, are facts which the student of the causes and remedies of war will have to consider.

To understand the psychology of war, it is necessary to go back and trace the actual history of the development of the human being. Here lies the trouble with all our schemes of pacificism and all our Utopias and all our pleasure and peace economies. They deal with an ideal human being, not with actual men. Sociologists will make futile contributions to human progress except as they keep in close touch with the facts of human evolution and of human history.

Some ages ago Nature, as we may say, in a figure of speech, made a great and wonderful discovery, that of the survival value of intelligence, supplemented later by the discovery of the survival value of sympathy and coöperation. It was no longer, thereafter, a question of tooth and claw, of swift foot, strong arm, and warm fur; it was a question of the manufacture and use of weapons and tools and clothes and houses. Psychologically, it was a

question of the development of certain new and wonderful mental traits, those of cunning and dexterity, attention and concentration, abstraction, analysis, and invention. But these required a large brain, and Nature therefore produced an erect, top-heavy animal, who acquired speech and called himself man. Physically this animal ceased further development. He needed nothing but a large and ever larger brain and a dexterous hand, and, finally, the dexterous hand also was scarcely needed, but brain and brain alone. The brain, however, required nourishment and a certain physical support, hence stomach, heart, lungs, and a circulatory system must needs be retained after some fashion, but the main intent was to develop brain and only brain.

This process is now at its height. Nature, we may say, is more than ever elated at her discovery of the survival value of intelligence, and this discovery is being worked for all that it is worth. There is no limit, it would seem, to the power of the mind. Other animal species are no longer feared. They are not even needed as servants. Electricity can be made to do all things better than the horse. Against intelligence the elements have no longer any

power. Storm and lightning and flood are now only interesting episodes. Night is no longer a harbinger of evil, but under the glare of the electric light a joy and great delight. Heat and cold are no longer to be considered. Steam and the electric current turn winter into benign summer, and night into day. Neither is distance to be reckoned with any more. It is short-circuited by steam, gasoline, and electricity.

Especially in continental Europe, in England and America, during the past fifty years, has the march of mind gone forward with dizzy-like rapidity. More than ever has man become master. More than ever are the higher brain centers the only significant organs in the body. Less than ever has Nature found it necessary for her immediate needs to care for stomach, heart, and lungs, or muscle and reproductive system. It is mind that counts and mind alone. Nineteenth- and twentieth-century man has become a high-power efficiency machine combining a marvelous capacity for thought with an unconquerable force of will, but working inevitably under high pressure and dangerous tension.

A gigantic system of wireless telegraphy and

telephony is not invented and extended over the whole face of the earth in a few years (one might almost say in a few months) without thought and effort. Dreadnoughts and super-dreadnoughts, mortars and machine-guns, dirigibles and aeroplanes, superb and matchless systems of military organization, are not perfected without thought and effort. Magnificent cities, fed by a network of smoothly running railroads, are not built without thought and effort. Improved systems of agriculture forcing the earth to produce fourfold more abundantly are not devised without thought and effort. Miraculously wonderful cinematographic machines are not invented without thought and effort, nor without thought and effort is every moving thing from the Arctic to the Antarctic in nature and in art photographed and brought in its living and moving similitude to our eyes. Large continental cities are not freed from graft and brought under elaborately perfect systems of municipal government without thought and effort. Great national and international systems of organized labor are not perfected without thought and effort. The day laborer does not hold himself hour by hour and day by day and

month by month to his highly specialized and fatiguing work without thought and effort.

These illustrations could be extended indefinitely. In the work of scientific research, in philosophical study, in industrial and mechanical invention, in the building of great systems of schools and universities, in the management of great commercial and industrial enterprises, in journalism, literature, and art, we see exhibitions of ceaseless thought and tireless effort. It is an age of hard work, and almost without exception it is mental work of a highly specialized kind and involves stress of the highest and most recently developed brain centers.

It was inevitable that disaster of some kind, or a reaction of some kind, should follow upon this high-tension and one-sided life. Something was bound to snap and something has snapped. Nature has overreached herself in her discovery of the survival value of intelligence. Intelligence, to be sure, has a survival value of almost limitless degree, but intelligence is, as it happens, linked inseparably to a brain, a highly complex, delicate, and unstable mechanism, which was originally intended as a motor center for hand, foot, and the

muscles of the trunk, and not as a center for thought and sustained effort. Furthermore, the brain itself is organically dependent upon stomach, heart, and lungs, whose parallel development Nature in her haste to develop her new discovery has neglected.

The form that the reaction has taken in this case is the form which the psychologist sees it must inevitably take, namely, the temporary reassertion of primitive human impulses. The world has had a thinking spasm of unusual severity; it must have a fling. In America, where conditions were much the same as in Europe, the reaction has taken the milder form of amusement crazes. The dance, the moving-picture show, the automobile, the baseball diamond, and the football gridiron have helped to relieve the tension. Furthermore, in both North and South America the tension has been greatly lessened until now by the conquest of a new country. Here men have lived more in the open, and have had the powers of nature to pit their forces against.

To those who do not understand this law of psychological compensation and who have been accustomed to regard the world as getting very serious and civilized and dignified,

intent on moral and social improvement, there is something almost as ludicrous in the spectacle of dancing America as there is something pathetic and tragic in that of warring Europe. For in Europe, where the temper of the people lends itself less readily to these lighter forms of release, the reaction took the form of a return to most primitive bloodshed. Consequently the war came to us as a distinct shock. One heard everywhere the comment — "It is impossible. I thought we had got far beyond all that." The culture of Germany, France, and England was so high that it was unbelievable that these people should suddenly develop hate in its most intense form, with a frenzied desire to kill one another. To the psychologist, however, it seems not unreasonable. It was a temporary reversion to completely primitive instincts restoring the balance to an overwrought social brain.

Before the war we heard everywhere of "unrest," a great spiritual unrest. But the significance of this unrest was not understood. It was not due to untoward social or economic conditions, for the world has never seen conditions so favorable for the greatest happiness of the greatest number. Its cause rather was

to be found in an asymmetrical development of human personality, too much thought, too much effort, too much "efficiency," and not enough balance, not enough mere bodily vitality. In England this unrest displayed itself as a high degree of social irritability. On the stage it appeared as a carping criticism of social life and social institutions; in literature as a hysterical pursuit of new Utopias; in political life as jarring rumors of civil war.

In Russia, just before the outbreak of the war, the streets of Petrograd were barricaded by strikers and progressives jealous of real or fancied wrongs. Instantly, when war was declared, a great inward "peace" settled down upon the warring nations. The restless soul ceased in a moment its feverish upward striving after new inventions, new philosophy, new science, and new thought. The brain centers were short-circuited. The social mind sank to the old level. It lived again in the old primitive emotions and the old racially familiar scenes, in pictures of bloodshed and rapine, in memories of the drum-beat and of the tread of marching armies. To be sure, there were sorrow and suffering and anxious faces and hunger and hardship and countless woes, but

these are old friends of the human mind. The nation was at war, but it was at rest. A certain strange harmony settled down upon the people. The war was hardly two months old when we began to hear of a new Russia, a new France, a new England, and a new Germany, all regenerated by the baptism of blood, full of high aspirations, purified visions, and noble resolutions.

The study which we have made of the psychology of play and sport enables us more easily to understand the psychology of war. The high tension of the modern workaday life must be periodically relieved by a return to primitive forms of behavior, as in football, baseball, hunting, fishing, horse-racing, the circus, the arena, the cock-fight, the prize-fight, and the countless forms of outing. Man must once again use his arms, his legs, his larger muscles, his lower brain tracts. He must live again in the open, by the camp-fire, by the stream, in the forest. He must kill something, be it fish or bird or deer, as his ancestors did in times remote. Thereafter come peace and harmony, and he is ready once more to return to the life of the intellect and will, to the life of "efficiency."

Periodically, however, man seems to need a deeper plunge into the primeval, and this is war. War has always been the release of nations from the tension of progress. Man is a fighting animal; at first from necessity, afterwards from habit. In former centuries, when the contrast between peace and war was not so great, it was undertaken with more ease and less apology, almost as a matter of course. Life was less intense then and the reaction of war less extreme. Now, in the face of an advanced public sentiment, of peace societies and arbitration boards, the tension has to become very great, the potential very high before the spark is struck, and, when this happens, we have the ludicrous spectacle of the warring nations apologizing and explaining to an astonished world.

War, therefore, seems to act as a kind of *catharsis*. The warring nation is purified by war, and thereafter, with a spirit chastened and purged, enters again upon the upward way to attain still greater heights of progress. But here again, as we have seen in the other forms of relaxation which we have studied, the *catharsis* figure is misleading. The situation is not one of gross emotions to be purged

away, as Aristotle's figure of speech implies. It is rather merely a question of fatigue and rest. Our demand for an ever-increasing efficiency has brought too great a strain upon those cerebral functions associated with the peculiar mental powers upon which efficiency depends. Efficiency demands great powers of attention, concentration, analysis, self-control, inhibition, sustained effort, all of which are extremely fatiguing and demand frequent intervals of rest and relaxation. When this rest and relaxation are lacking, we may always expect cataclysmic reactions which will restore the balance.

In war, society sinks back to the primitive type, the primitive mortal combat of man with man, the primitive religious conception of God as God of battles, and the primitive morality of right as might. It brings rest to the higher brain, it brings social relaxation, it brings release from the high tension which is the condition of progress. After the war, almost in a day, the nation resumes its accustomed moral standards, just as the debauchee returns to his daily life chastened and subdued. Unfortunately, this spiritual regeneration, which in older times may have redeemed

the horrors of war, is in our modern wars buried under such a staggering load of evils, financial, economic, and moral, that it taxes the imagination to derive any consolation from this spiritual rebirth. Perhaps the most that can be said is that it clears the mental atmosphere for the future upward way.

If the theory of war here suggested is correct, it might be inferred that in modern times, as life becomes more rapid and more strenuous and the brain tension greater, wars would become more and more necessary to relieve the tension and restore the equilibrium. It is true that with the heightening of mental life, relaxation of some kind becomes more and more imperative. But with the growth of intelligence the absurdity, futility, and unreason of war as a means of settling disputes becomes more and more evident, and with the increase of culture and refinement and of Christian love and sympathy, the spectacle of war becomes more and more anomalous and grotesque, so that we have in modern times powerful counteracting forces — forces which are still further augmented by the vigorous humanitarian movements of the times. The motives which make for peace are so great

and the absurdity of war so apparent that the fact that wars continue quite as general and quite as frequent as in former times shows that the deep-lying psychological forces which lead to war are more powerful than ever.

If some way is found to prevent international rivalries, if war between nations is made less and less possible by schemes of international arbitration and conciliation, why, then, it is probable, unless we also discover some method of diminishing the mental tension of our present mode of life, that "unrest," social irritability, and probably civil wars will increase. Professor James was wholly right when he hoped for some substitute for war. The suggestion made by Walter B. Cannon, that international sports might take the place of international wars, would seem to be one quite in accord with the psychologist's attitude on the subject.¹

The fact is that it does not take a very careful reader of the human mind to see that all the Utopias and all the socialistic schemes are based on a mistaken notion of the nature of this mind. It is by no means sure that what

¹ See the interesting chapter in his book, *Bodily Changes in Pain, Hunger, Fear, and Rage*, chap. xv.

man wants is peace and quiet and tranquillity. These are too close to ennui, which is his greatest dread. What man wants is not peace, but a battle. He must pit his force against some one or some thing. Every language is most rich in synonyms for battle, war, contest, conflict, quarrel, combat, fight. German children play all day long with their toy soldiers. Our sports take the form of contests in football, baseball, and hundreds of others. Prize-fights, dog-fights, and cock-fights have pleased in all ages. When Rome for a season was not engaged in real war, Claudius staged a sea-fight for the delectation of an immense concourse, in which nineteen thousand gladiators were compelled to take a tragic part, so that the ships were broken to pieces and the waters of the lake were red with blood.

You may perhaps recall Professor James's astonishing picture of his visit to a Chautauqua. Here he found modern culture at its best, no poverty, no drunkenness, no zymotic diseases, no crime, no police, — only polite and refined and harmless people. Here was a middle-class paradise, kindergarten, and model schools, lectures and classes and music, bi-

cycling and swimming, and culture and kindness and Elysian peace. But at the end of a week, he came out into the real world, and he said:—

Ouf! what a relief! Now for something primordial and savage . . . to set the balance straight again. This order is too tame, this culture too second-rate, this goodness too uninspiring. This human drama, without a villain or a pang; this community so refined that ice-cream soda-water is the utmost offering it can make to the brute animal in man; this city simmering in the tepid lakeside sun; this atrocious harmlessness of all things — I cannot abide with them.

What men want, he says, is something more precipitous, something with more zest in it, with more adventure. Nearly all the Utopias paint the life of the future as a kind of giant Chautauqua, in which every man and woman is at work, all are well fed, satisfied, and cultivated. But as man is now constituted he would probably find such a life flat, stale, and unprofitable.

Man is not originally a working animal. Civilization has imposed work upon man, and if you work him too hard, he will quit work and go to war. Nietzsche says man wants

two things — danger and play. War represents danger.

It follows that all our social Utopias are wrongly conceived. They are all based on a theory of pleasure economy. But history and evolution show that man has come up from the lower animals through a pain economy. He has struggled up — fought his way up through never-ceasing pain and effort and struggle and battle. The Utopias picture a society in which man has ceased to struggle. He works his eight hours a day — everybody works — and he sleeps and enjoys himself the other hours. But man is not a working animal; he is a fighting animal. The Utopias are ideal — but they are not psychological. The citizens for such an ideal social order are lacking. Human beings will not serve.

Our present society tends more and more, in its outward form, in time of peace, toward the Chautauqua plan, but meanwhile striving and passion burn in the brain of the human units, till the time comes when they find this insipid life unendurable. They resort to amusement crazes, to narcotic drugs, to political strife, to epidemics of crime, and finally to war.

Psychology, therefore, forces upon us this conclusion. Neither war nor alcohol can be banished from the world by summary means nor direct suppressions. The mind of man must be made over. War is not social insanity nor is it even social criminality. It is too normal to be classed as either. But war is fast becoming irrational, and a substitute for it must be found. Social reconstruction hereafter will have to be conceived on a different plan. It will have to be based on an intimate knowledge of psychology, anthropology, and history, rather than merely upon sociology and economics. As the mind of man is constituted, he will never be content to be a mere laborer, a producer, and a consumer. He loves adventure, self-sacrifice, heroism, relaxation. These things must somehow be provided. Still more important will be some change in our educational ideals which shall look not so much to efficiency merely and ever more efficiency, as to the production of a harmonized and balanced personality. Perhaps we shall have to cease our worship of American efficiency and German *Strebertum* and go back to Aristotle and his teaching of "the mean."

CHAPTER VII

CONCLUSION

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OUR purpose in these studies has been merely to gain a better understanding of play, of sport, of laughter, of profanity, of the desire for alcohol, and of the causes of war, from the psychologist's point of view. But possibly the reader may ask whether any practical results follow from these studies. For instance, should we play more or less or differently? Is there, from the viewpoint of the psychologist, any hope of repressing the desire for alcohol or checking the tendency to war?

Perhaps the practical conclusions have incidentally become apparent enough from the preceding pages. It may be well, however, in conclusion, to emphasize a few points concerning some general tendencies of our times in regard to work and play.

Of course, the first and obvious conclusion would be that, if we are to avoid unhealthful forms of relaxation, we must provide healthful

ones. Periods of relaxation are imperative, not only for our individual health and peace, but also for social safety, and the imperative need of this relaxation is increased by the peculiarly tense character of our manner of life.

A different kind of social life would seem to be necessary if we are to lessen the craving for alcohol and diminish the frequency of war. Without doubt this is a profound truth, which, if it could be made explicit, would solve the problems of alcohol and war, or at least hold out more hope of solving them than any direct means of repression or any legislative or political expedients.

Does the psychology of relaxation offer any hints as to just what kind of social life this different kind of social life will have to be if the desired ends are to be realized? Well, evidently it will not be the kind which has usually been pictured in the Utopias. It will not be any socialistic state based on a pleasure economy, where peace and plenty are supposed to go hand in hand. As the human mind and body are now actually constituted, an era of plenty will not be an era of peace. Historically the human race knows little of "plenty"; it knows rather of want and pain

and struggle. The twentieth century is comparatively an era of plenty, and it has witnessed the most ferocious and bloody of all the wars of the world. Increase of riches, whether national or individual, does not conduce to peace, but to irritability and contention. Mr. L. P. Jacks, writing in the "Atlantic Monthly,"¹ maintains that the European war sprang in large measure from the enormous increase in national wealth which was not tempered by a corresponding increase in morality.

The psychologist sees less hope in social and political and economic reforms in eliminating vice and preventing war than in different habits of life and in a different manner of social life and in a different kind of education for the young. These changes must be in the direction of a largely increased relaxation and in a mode of life which shall aim to produce a harmonized personality and shall put less strain and emphasis upon the brain. The pace has become too rapid. Both the individual and society will have to learn to "let go" and breathe more deeply.

It would be easy to mention many changes

¹ September, 1915, p. 419.

in our manner of life which would tend in this direction, but, while such suggestions might be of priceless benefit to the individual who should adopt them, they stand so directly opposed to the stream of present social tendencies that one sees little hope of speedy changes of this kind. Such, for instance, would be more outdoor life; more walking and less riding, and in riding the return to the use of the horse instead of the automobile, especially to the use of the saddle horse; a return to earlier forms of sport and play, especially to the rougher and ruder kinds; a return to fishing and camping and hunting; a return to country life instead of city life; the owning and cultivating of the soil and the care of domestic animals; the increase of holidays and festivals; a very large decrease in the amount of our reading; the substitution of music, particularly tranquilizing music, for the ultra-stimulating theater and moving-picture show; and finally the increased cultivation of the quieting influences of art and religion. It would be easy to extend this list and as useless as easy, for it all means the complete reversal of our present tendencies.

Scarcely less difficult and somewhat more

hopeful would be the outlining of a different system of education for the young. For instance, let the children be kept out of doors where the human race has lived; let them stand on their feet, not sit cramped between a desk and a seat; let them use the larger and older muscles, not the finer muscles of the eyes and fingers; let them avoid letters wholly till they are ten years old, and even then let them largely forswear books and pens and stuffy schoolrooms; let them live, as the ancient Greeks lived, in the open or in the gymnasium or on the playground or in the baths; let their education be in music and gymnastics and in physical training and in morals and in citizenship and in handicraft, and in manual rather than cerebral dexterities; let the whole aim be to produce a harmonized personality in which there shall be a perfect balance between brain and muscle, and in which heart and lungs and stomach and the eliminative and reproductive systems shall receive first rather than last consideration. It is at any rate conceivable that a stable society might be built from the stable units thus produced.

As long, however, as our social ideals remain

as they are, so long will our schools cultivate those mental traits which our social conditions demand, namely, intensive thought, analysis, attention, discrimination, keenness, shrewdness, and cunning — and so long may we expect frenzied social reactions and a craving for narcotic drinks and drugs. The mental traits just mentioned are those which conduce to individual efficiency, success, the exploitation of nature and of other men, the amassing of wealth, the increase of the bigness of everything, — big business, big engines, big buildings, big cities, big ships, etc.; and the fastness of everything, — fast trains, fast steamships, fast motor-cars, fast communication. These things now stand for progress in the minds of most people, and consequently there is not just at present much hope for any radical change in our educational programme. When our ideals of progress change so that we shall prize quality rather than quantity, a measured limitation rather than unrestricted liberty, beauty rather than size, stability rather than rapidity, the true rather than the sensational, then we may learn to emphasize other traits in our education of the young. A system of education is conceivable which should cul-

tivate every part of the human personality with equal care, the body as well as the mind, and of the mind not the intellect alone, but every shade of fine feeling and noble impulse — an education which should bestow the ability to master self as well as to master nature, the ability to rest, relax, and obey, as well as to dominate other men, the ability to confine all our desires, passions, ambitions, and activities within just limits.

Ferrero, in his "Ancient Rome and Modern America," has pointed out most clearly and most convincingly the points of strength and weakness in our modern social life. In this book the learned historian of ancient Rome, who has likewise made himself acquainted with every phase of our dizzy modern life both in Europe and the two Americas, has pronounced a judgment upon our civilization which is as sane and sober as it is critical and penetrating. He is by no means blind to the immeasurable advance that the world has made in some respects since the days of ancient Rome. But of the present time he says in his concluding sentences:—

Never has man lived in such a state of permanent and growing excitement. If the men of

the ancient world could come to life again, their first impression, you may be sure, would be that mankind had gone mad. It is this excitement which has produced the formidable explosion of energy that we are witnessing on our little planet, which for ages had lived in comparative tranquillity. But has not this formidable tension of the world-soul itself need of limits? Can we conceive its being allowed to increase indefinitely until the time when the nervous system breaks down, as inevitably it must? Can we conceive our perpetual agitation being left without any limit save exhaustion, insanity, or death? The question answers itself. The limits to the overexcitement of our nerves raise one of the most serious problems of our epoch; a problem with a thousand different aspects, which involves morals as well as hygiene, politics as well as the intellectual life.

Among the "thousand different aspects" of the problem of overexcitement of our nerves we might mention here incidentally the problem of the moving pictures. In these pictures we have all the conditions most favorable for an intensification of a mode of living already too intense. It is upon young children, however, that the effect is most pernicious. The natural life of the child is a life of muscular activity in the open. To confine such children

for one or two hours in a seat in a dark and often poorly ventilated room would be unwise, even if they had not already been confined, perhaps, many hours in a schoolroom or over their story-books. And yet this is the least of the three evils of these pictures.

The second is the dangerous intensification of the mental life of the child by the highly exciting effect of such a rapid series of shifting scenes drawn from every department of nature and society. It constitutes a severe and unnatural strain upon the attention and the perceptive powers, which cannot fail to result in an impairment of normal mental growth, and may, indeed, in many cases result in positive impairment of the nervous system in later years.

In no sense, therefore, can moving pictures be included in forms of relaxation for children. On the contrary, their effect is to speed up a mental life already under too much stimulation. The concentration of attention, even though the attention be objectively determined by the plot-interest and by the rapidity of the changing scenes, is an effect quite the opposite of that which recreation and relaxation seek to attain.

Evils of the second class, just referred to, are inherent in all moving pictures. Those of the third class, the moral evils, might be obviated if the pictures themselves were of an unobjectionable kind. The pictures commonly shown are oftentimes simply of a character to awaken wonder and to make one dissatisfied with the plain and simple life of the home, but sometimes they are directly suggestive of evil, and sometimes, most unfortunately, they are such as to stimulate too early certain instincts and emotions which should ripen later and more gradually.

We hear about the educational value of the moving pictures. Surely, if this is education, it is of an antiquated kind. Every educator now knows that an education in which the child is passive and quiescent is of little value. The child must respond, he must react to his impressions. Flashing before his eyes a lot of scenes is not education, even when the scenes themselves are of a harmless character.

Another aspect of this same problem of the overstimulation of our nerves presents itself in the use of stimulants and narcotics. We do not always appreciate the significance of statistics like the following: The annual consump-

tion of tobacco in the United States is about half a thousand million pounds; of coffee, nearly a thousand million pounds; of tea, almost a hundred million pounds. In the current issue of the grocery list of a colossal mail-order house of one of our larger cities, seven pages are devoted to coffee and tea, and two to cigars, while flour is given only two pages and no other article of food more than one page. So far as is known, these narcotics and stimulants contribute nothing whatever to mental and physical economy. The reason why human beings desire bread is apparent. It furnishes nutriment and renews wasted tissue and expended energy. Tea, coffee, and tobacco furnish no energy and renew no tissue, yet the desire for them is intense. This desire for narcotics and stimulants is probably a symptom of an overdeveloped and overstimulated brain. It indicates a lack of adjustment between body and brain — too much work and not enough play.

Probably what we need is not to try so hard, not to work under so much pressure — to attain to more calm, poise, balance, symmetry, harmony. We shall do well to ponder on Ruskin's saying that the great things of the

world have been done with a great ease, not with a great effort. In the brilliant epochs of painting and sculpture and architecture and music and poetry, it was the overflowing impulse of the artist which demanded expression in those exquisite forms of beauty. Notwithstanding Mr. Edison's *bon mot*, it was inspiration and not perspiration that did those things. Religion no more than art flourishes in a perspiring age like the present. The religious impulse springs spontaneously from the full heart.

Mr. Chesterton raises the question, as many others have done, whether there has been in recent times or is at present any human progress. Progress implies an ideal. What we have at present is not progress, but a movement, a movement toward industrial differentiation, toward comfort, — no, not necessarily comfort, but toward a mode of life separate from muscular activity. Now, the loss of muscular activity must be fatal to man. It would be the beginning of the end, however brilliant the years of that end might be. Man has developed a stupendous brain, and with this brain he can conquer nature and amass riches, but there is danger that these riches may

bring physical decadence rather than social stability. Professor Giddings in his "Democracy and Empire" says:—

Dazzled by the magnificent results of material progress already achieved, men throw themselves into the great enterprises of modern life with the zest of an ambition that knows no bounds. The rate of industrial, professional, political, and intellectual activity becomes proportional to the swiftness of electricity and steam. . . . Increase the strain of any kind of competitive work and derange the conditions under which it is done, and the percentage of failures will rise. That this is the far-reaching explanation of the physical and intellectual and moral degeneration that we behold on every side, notwithstanding a marvelous multiplication of all the influences that make for good, is not to be doubted by one who will patiently study the facts recorded in mental and vital statistics.

Professor Giddings goes on to recall the rapid increase in suicides, insanity, and crime, and he might well add now increase in bloodshed in war and an increased desire for alcohol and drugs.

As regards the physical condition of our so-called civilized races, many writers have been misled by mistaking striking examples of

efficiency and endurance for physical excellence. That our modern athletic records have never been surpassed proves nothing as to the physiological vigor of our people. The wonderful development of nervous centers enables the modern man to store up and expend an enormous amount of energy, making him highly efficient and progressive, but at the same time unstable. The result is a glittering materialistic civilization accompanied by many neurotic evils, — feeble-mindedness, crime, suicide, hysteria, nervous exhaustion, amusement crazes, craving for narcotics, such as alcohol and tobacco, the substitution of urban for rural life, birth-control, decreasing fertility, social instability, and war. To realize the seriousness of these evils one has to remember the herculean endeavors that society is making through every kind of uplift movement to prevent or check them. An untold army of skillful surgeons and dentists and medical specialists enables us to cover up many of our physical weaknesses and make a good appearance. A race of men, which for some hundred thousand years has stood on its feet and lived in the open and fought for its life, is not likely to thrive very long in

street-cars, automobiles, steam-heated houses, and hammocks and easy-chairs. We have become a sitting race, and it is doubtful whether a sitting race can long survive. In fact, we are no longer able to sit erect, but demand support for the back, which tends increasingly to tip backward, giving us more and more a reclining position. The desire for the hammock and the increasing need which we feel of getting our feet up on something is a serious symptom. The human race gained its erect position through strenuous ages of selection, a position which we are now somewhat relinquishing.

The gradual displacement of the human waking day as compared with the solar day is probably both cause and effect of decadence. From two to four hours of life-giving sunshine in the morning have been replaced by a like period of artificial light in the evening. There would seem to be every conceivable advantage to human beings to make the waking day conform to the sunlight day by getting up two hours earlier in the morning and going to bed two hours earlier at night, and no conceivable disadvantage, sunlight being brighter, healthier, and cheaper than electric light. But

although the sunlight could be had for the asking, the present age would not welcome the change. We prefer the artificial light, and each new generation prefers more of it.

The present age is an intensely masculine age, and it is so because the peculiar masculine qualities, those which fit us to our immediate environment, have a direct and temporary survival value. Woman, with her centripetal character, her greater calm and poise and relaxation, her conservation and her conservatism, has until now been the needful balance-wheel, the conserving force. If feminism were what the word would indicate, there would be some hope in that direction. But apparently it means that woman is to become masculine, and surely the world is already masculine enough. It is characteristic of our times to be expansive, centrifugal, iconoclastic, self-conscious, and nervous. It is a time of labor, of endeavor, of effort, of expenditure, of adaptation, and of change. These are all masculine motives, and their tendency is not toward peace or freedom or rest or balance or beauty or attractiveness or reserve of power or conservation of forces. Dionysus is the god of this century; Apollo we have for-

gotten. The Dionysian motive, the motive of the strenuous life, is not tempered, as it was among the Greeks, by the Apollonian motive of balance, harmony, and repose.

The nineteenth and twentieth centuries are characterized by a belief that happiness is the ideal of man, and that happiness is to be attained by work and by wealth equally distributed. This is all open to doubt. A more careful study of human history raises the question whether man is a working animal, whether he is not a fighting and a playing animal. In Hebrew tradition work was imposed upon man as a curse for wrong-doing. It might be better that he should cease to be a fighting and a playing animal and become a working animal, but the attempt to effect the change may not be successful. Judging from the war in Europe the change to date has not been very rapid. Twentieth-century man has become a hard worker, but he slips off his harness and puts on his armor and then destroys in a year the product of the labor of decades.

Perhaps the ideal of man is joy rather than happiness. A recent writer, commenting on Maxim Gorky's "Comrades," says:—

In this book we have the record of a people living beneath the shadow of oppression, imprisonment, torture, death, yet overflowing with an enthusiasm, a warmth of fellowship, a sense of glory, a deep and thrilling joy more akin to the genius of the New Testament than the life of many of our churches.¹

We hear continually about the "unrest," the "spiritual unrest," of the present, and it is constantly and wrongly assumed that this unrest is due to unfavorable economic and social conditions and that it could be averted if these conditions were better. But the economic and social conditions were never as good as they are now, if by "good" we mean conducive to comforts and luxuries, and if these conditions were still "better," the unrest would probably increase. Really good social and economic conditions are those which would produce a sturdy and stable race and a stable society and those higher forms of culture which are typified by art, literature, and religion.

Before the opening of the economic age [says Brooks Adams], when the imagination glowed with all the passion of religious enthusiasm,

¹ Herman, *Eucken and Bergson*, p. 80.

the monks who built the abbeys of Cluny and Saint Denis took no thought of money, for it regarded them not. . . . Their art was not a chattel to be bought, but an inspired language in which they communed with God or taught the people, and they expressed a poetry in the stones they carved which far transcended words. . . . For these reasons Gothic architecture in its prime was spontaneous, elevated, dignified, and pure.¹

Now art is not a form of work; it is a form of play. It is the fruit of the gospel of relaxation.

Our purpose will be misunderstood if it is thought to be a pessimistic depreciation of the present times. Criticism of the present and exaltation of the past are always easy. Our purpose is to show that the glories of an economic age are tempered by serious faults which may become fatal ones. The kindliness, sympathy, fellowship, and service of our time, and its superabounding comforts and luxuries, make it, except in the intervals of war and except among the submerged and dependent, defective, and delinquent classes, a most comfortable time to live in. But it is

¹ Brooks Adams, *The Law of Civilization and Decay*, p. 380.

at least open to doubt whether such comforts and luxuries, or such service and sympathy, are conducive to or compatible with a really high civilization, unless the units of which society is composed are to be very different from the actual human beings of the present order. Under the rule of sympathy and service, and of comforts and luxuries, there is danger of physical degeneration, with its resulting racial instability, while the continued development of the higher brain and the continued neglect of physiological vigor increase the tension and irritability and precipitate social reactions and upheavals.

Clearly, then, what we need are relaxation and conservation — conservation of vitality, of physiological strength and vigor, of the old and basic powers of the race, of those non-masculine traits which are typical of the past, present, and future of mankind. The nineteenth century was the evolutionary century. The world was intoxicated with the idea of development. The twentieth century will be, let us hope, the century of conservation.

It is doubtful whether the development of the higher brain, wonderful as are its results in producing a certain glittering kind of civi-

lization, can be carried any further without defeating its end. What we have to expect and what is, indeed, now going on, is the silent displacement of the highly civilized races by the more sturdy and less civilized ones, a change which will be no less certain, although it may be less spectacular, than the one which destroyed Imperial Rome. In the long run, not the shrewdest and most intelligent race will survive, but the race whose supreme intelligence and whose power of coöperation shall be buttressed by physiological vigor. Nietzsche was perfectly right when he said that physiological vigor is the only enduring ground of human welfare.

In a great crowded city like New York or Chicago, where nearness to the city's center is advantageous, the sky-scraper was a bright idea. But there is a limit to the height to which it can safely attain. Stability and permanence may be sacrificed to height. In the end the Greek temple, which has symmetry as well as splendor, will stand longer. The man of to-day is a kind of sky-scraper. He has splendor but not symmetry. Stability and permanence have been sacrificed to cerebral development. The tension, therefore, is very

great, and his career is accompanied by reactions and reversions of many kinds. He lives and works under high pressure, and disastrous outbursts and frequent reactions are the result, and that, too, despite the fact that a considerable amount of the supreme intelligence which he has gained is constantly used in buttressing up by all manner of means the human body, the human mind, and human society. Never was mankind working so desperately to heal the diseases of the body, the diseases of the mind, the diseases of morals, the diseases of society. An enormous amount of thought and effort goes to these cures and to these uplift movements. We have a vastly improved surgery and dentistry and medicine and hygiene, and we have temperance movements and peace societies, and we have better schools and better churches, and better courts and better laws, and better houses and better clothes, and better food and better drink, and we have societies for remedying every defect of individual and social man, but the results have been disappointing, for we have gained no higher degree of civilization as measured by art, poetry, or literature, nor have we lessened in any noticeable degree physical and

mental diseases, crime and social calamities. To what extent is this due to social causes and to what extent to organic decadence of the units of which society is composed? It is the custom of the day to put great emphasis upon social evolution and social heredity and to seek in improved social, economic, and political conditions for the cure of our social ills. But we cannot afford to be blind to the importance of the biological fitness of the units of which society is composed. All the evidence from the studies we have made in this book tends to strengthen the belief that in the lack of biological fitness or of physiological adjustment we have the source of many of our social ills. If this be true, is there any remedy except the grim working of natural selection?

The creative power of human consciousness apparently knows few limits. It can spy into every secret of nature and control every natural force. It can find the cause of every disease and the cure of many. It can probably in time equalize the distribution of wealth and opportunity. It can, perhaps, in the end, abolish war and alcohol. But can it do the one thing needful? Can it protect its own

physical basis? Can it effectuate a healthy balance of mind and body?

The law that acquired characters are not inherited seems to offer a fatal obstacle to this goal. If so, racial tendencies must run their course and the really fittest will survive. And if the really fittest shall turn out to be the sturdy rather than the highly civilized races, then we must expect the present civilization, the civilization of the large city, of steam and electricity, of the telegraph and telephone, of the motor-car and the easy-chair, — of those who “live softly,” in Mr. Roosevelt’s apt phrase, — to disappear and some other to take its place.

This is very likely what may happen, and, perhaps, with the renaissance of sturdiness, there may also come an outpouring of art, music, poetry, and religion, which symbolize the deep joy of life. “When the intellectual development of any section of the race has, for the time being, outrun its ethical development, natural selection has apparently weeded it out like any other unsuitable product.”¹

But the real question of interest is whether it is necessary that this shall take place by

¹ B. Kidd, *Social Evolution*, p. 307.

the destructive methods of relentless selection, such as in the case of old Rome caused a great and wonderful civilization to collapse like a rotten building, or whether the supreme intelligence which man has attained, and which has been invincible in the conquest of nature, can take up and master the problem of changing the direction of human evolution itself into channels which shall lead to a higher and more stable civilization, a civilization free from the curses of war and alcohol and from repulsive mental, physical, and moral diseases. There are means already known to science which look in this direction.

One method we may find in eugenics, another in the continued influence of an improved environment, a third in the indirect benefit which shall accrue to racial stamina through the elimination of war and alcohol. It is now believed that alcohol is a protoplasmic poison and may poison the whole body, and so prevent the proper nourishment of the germ cells, even if it exerts no direct injury upon them. Suppose, then, that by means of a different system of education we might attain to such poise and balance and harmony that the desire for alcohol could be abated,

then it is conceivable that racial sturdiness might be promoted without the sacrifice of our present civilization. In the same way and by the same means, the frequency of war might be lessened and racial vigor be increased, for modern wars act to impoverish the physical heredity of a people by the loss of its physically strongest men.

However this may be, the zest with which we are now taking up the problems of conservation, whether of our forests, our soils, or the health and vigor of our children, holds out rich promise of a possibility of some real solution of these vexing questions.

THE END

